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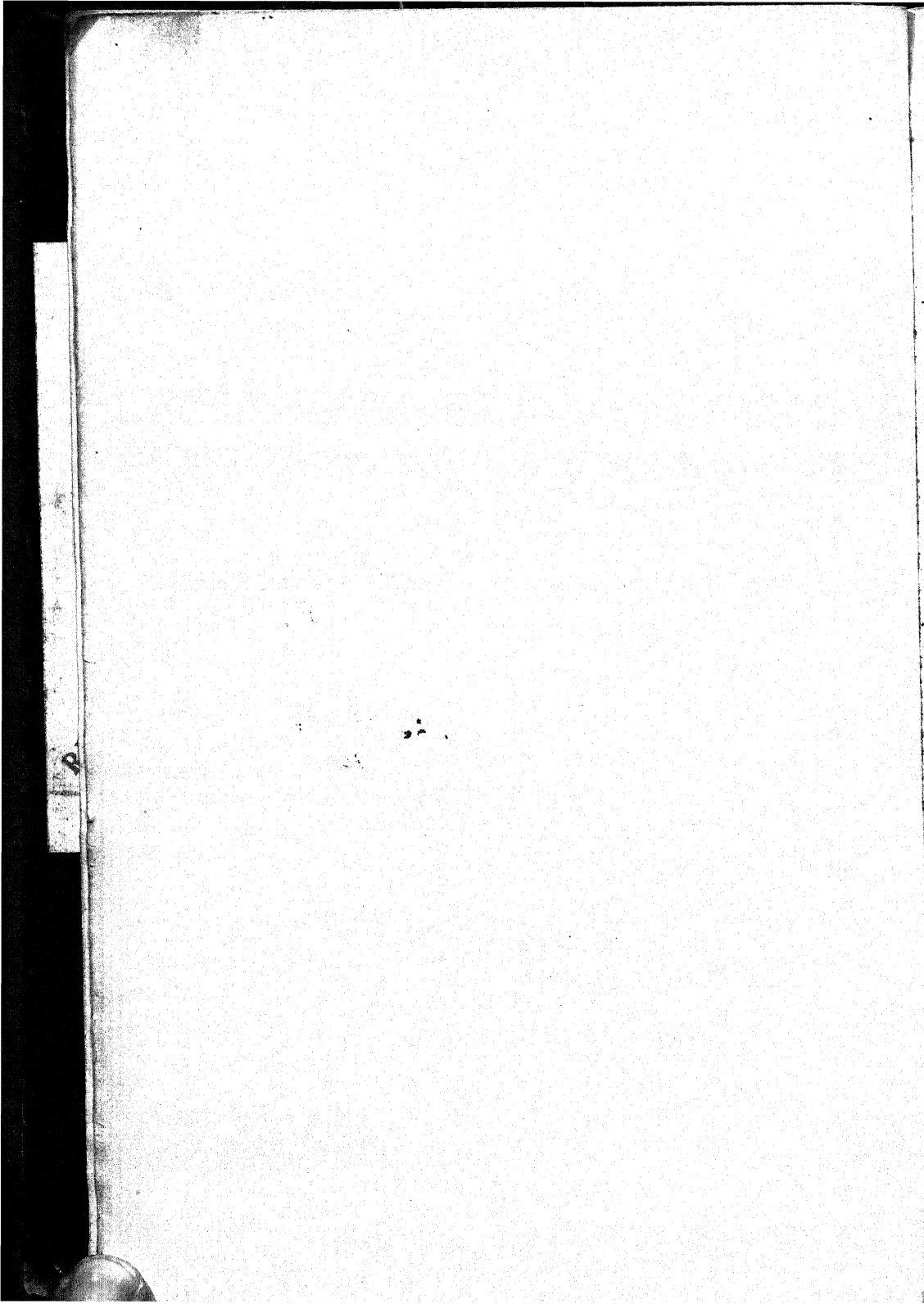
ESSAYS

WRITTEN FOR

THE WELLINGTON PRIZE

~~S. J. Samuel~~
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C. H. Elliott
3rd B. C.

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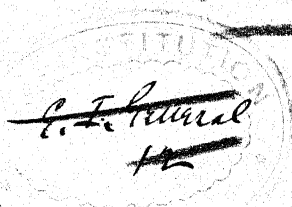
WRITTEN FOR

THE WELLINGTON PRIZE)

AND

SELECTED FOR PUBLICATION BY HIS GRACE'S DESIRE
FROM THOSE SPECIALLY MENTIONED
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"ORDER MAY CHANGE, BUT PRINCIPLE IS FIRM"

WILLIAM BLACKWOOD AND SONS

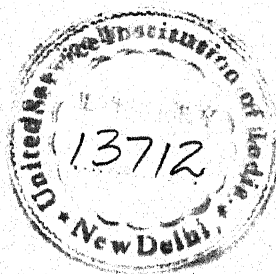
EDINBURGH AND LONDON

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presented to the U. S. I. of India by
Lt. Colonel G. H. Elliott, 3rd Bde.

N O T E.

THE following advertisement appeared in the
'Times' and other papers in August 1871:—

"PRIZE FOR A MILITARY ESSAY.

"The Duke of Wellington, desiring to promote professional knowledge and the expression of original ideas among officers of the Army, proposes, with the concurrence of his Royal Highness the Field-Marshal Commanding-in-Chief, to give £100 as a prize for the best Military Essay on the following conditions:—

1. Subject of the Essay,—'The System of Field Manœuvres best adapted for enabling our Troops to meet a Continental Army.'

This subject will be treated under the following heads:—

(a) Mode of forming the columns of march when a collision with the enemy may be expected.

(b) Mode of covering an army on the march, or in position, in order to conceal its movements, and to obtain information of those of the enemy.

(c) Mode of forming, combining, and employing the different arms for attacking an enemy in position.

(d) Mode of combining and employing the different arms for receiving the attack of an enemy.

2. Tactics have lately undergone, and may be expected to undergo, important modifications. The subject, therefore, opens a wide field for the display both of acquired knowledge and of original views. All theories or suggestions should be supported by argument, and, as far as possible, by precedents of recent warfare. Where general principles are laid down, the modifications which circumstances, such as different topographical conditions, may cause should be explained.

3. No essay is to exceed in extent 100 printed pages of the Queen's Regulations.

4. The competitors to be officers on full pay or half-pay of her Majesty's Army, without restriction as to rank.

5. The essays to be forwarded before the 1st of March next to Colonel E. B. Hamley, C.B., Commandant of the Staff College, who has, at the Duke of Wellington's request, undertaken to decide among the competitors. Each essay will be distinguished by a number and a motto, inscribed by its writer, who will also communicate the number and motto, together with his name, to the Duke of Wellington, at Apsley House, Piccadilly, to whom alone they will be known until the prize is awarded.

6. Arrangements will be made for the publication (if it be deemed desirable) of the Prize Essay, for the benefit of the writer, and his name will also be published."

After indicating the Prize Essay, the arbiter selected ten others for special mention, for the reasons given in the following extract from his report to the

Duke of Wellington, which was published in the 'Times' in May 1872, at his Grace's request :—

" But many other essays have been sent in competition of so high a degree of merit, and showing such extensive and well-directed reading and inquiry, that I am unwilling to confine myself to a bare compliance with the conditions by indicating only the prize paper, lest many excellent, though in the present case unsuccessful essayists, should consider their ability and pains unappreciated. I beg, therefore, to be allowed to mention the essays distinguished by the following mottoes as being of high value :—' Πλέον ἡμῖν παντός,' 'Agincourt,' 'Cadenti porrigo dextram,' 'Ubique,' 'Nil desperandum,' 'Tam Marte quam Minerva,' 'The old order changeth, giving place to the new,' 'Neither wisely nor too well,' 'Esto paratus,' 'Paratus et fidelis.'"

It appeared to the Duke that, although the publication of the Prize Essay only had been contemplated, yet, if all the essays thus eulogised were left unpublished, an important and interesting contribution to military literature would be lost. From among those specially mentioned, a further selection of six was therefore made, and the consent of their writers was obtained for their appearance in the present volume. In order to give as much unity and completeness to the book as the work of several independent writers would allow of, those essays which take a general view of the subject have been associated with others, the characteristics of which are fulness of detail and

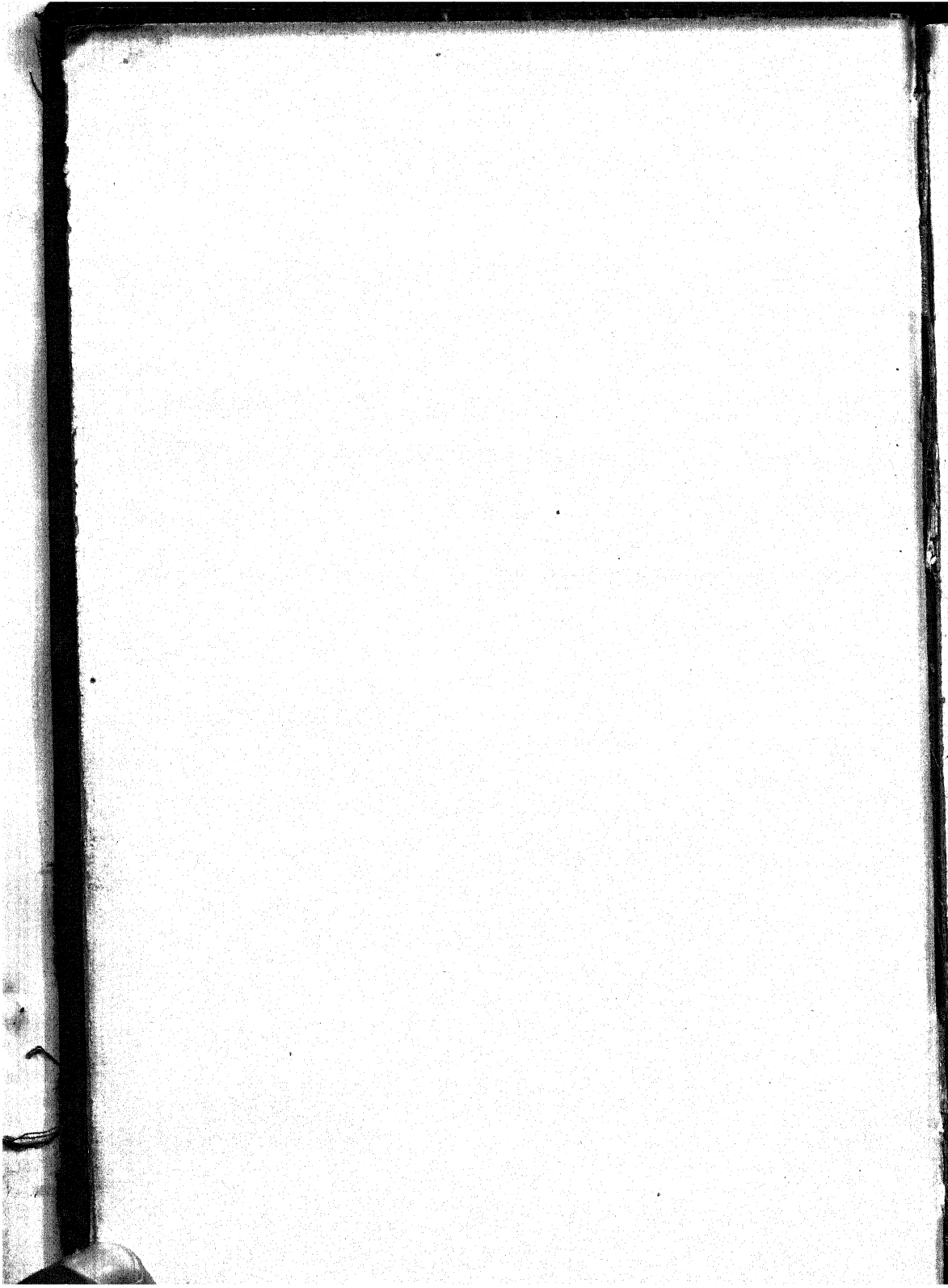
the employment of particular arms ; and they have been arranged in their present order solely with a view to the gradual development of the subject. It is hoped that the Duke's object in undertaking the publication of the volume will be held to be fairly realised.

The writers alone are responsible for the statements and opinions set forth in their essays.

CONTENTS.

	PAGE
ESSAY I. BY LIEUTENANT J. T. HILDYARD, ADJUTANT 71ST HIGHLAND LIGHT INFANTRY,	1
" II. BY LIEUTENANT STANIER WALLER, ROYAL EN- GINEERS,	65
" III. BY CAPTAIN J. C. RUSSELL, 10TH ROYAL HUS- SARS, A.D.C. TO MAJOR-GENERAL COMMANDING CAVALRY BRIGADE, ALDERSHOT,	99
" IV. BY COLONEL SIR GARNET J. WOLSELEY, C.B., K.C.M.G., ASSISTANT ADJUTANT-GENERAL, HORSE-GUARDS, WAR OFFICE,	189
" V. BY GENERAL J. R. CRAUFURD,	253
" VI. BY LIEUTENANT C. COOPER KING, ROYAL MARINE ARTILLERY; INSTRUCTOR OF TACTICS AND OR- GANISATION, ROYAL MILITARY COLLEGE, SAND- HURST,	327

NOTE.—The Essays are placed as nearly as was possible in the order in which the subject would have been treated by a single author. Essays I. and II. take general views, and may be considered introductory; III. treats chiefly of a particular arm—the cavalry; IV. V. and VI. discuss the whole subject in considerable detail.



ESSAY I.

“ Πλέον ἡμισυ παντος.”

BY

LIEUTENANT J. T. HILDYARD,

ADJUTANT 71ST HIGHLAND LIGHT INFANTRY.





ESSAY I.

BEFORE entering upon the tactical formation and the employment of British troops in the field, it appears to me advisable to touch upon their organisation, composition, and special qualities, with a view to suggesting certain alterations which I consider necessary, before the full force of our army could be utilised.

A great deal has been spoken and written about the localisation of our regiments and corps, and at the present moment we are led to suppose that such a system, although fully approved of and only postponed, is to await execution for a year at the very least, on account of the want of accommodation in some of the counties and towns, and of the expense it would be to supply it. In this system appears to lie the only way of effecting a change in the body of the army, without affecting the *esprit de corps* of such regiments as may claim long and gallant histories for their colours.

No regiment can demur at merging its numeral into its county title, which it has always looked on

with equal pride ; and if some few have hitherto had none, they must be at least so connected with some portion of the United Kingdom as to insure their receiving a county title with pride, particularly if permitted to retain as well their former device.

By this means a distribution of our infantry in regiments of two battalions in Brigades and Divisions might be effected with almost universal satisfaction and immense gain.

Without entering into argument, and without attempting to explain the steps by which the end must be attained, I hold that
Indian army. for our own comfort, economy, and safety, we must resign our impossible problem of dividing an army with interchangeable parts—supposed to be equally effective on an Eastern or a European field—and form separate armies for the purpose of fighting with the foe they have been respectively taught to meet—one for India and one for Europe. That there would be no difficulty in filling the *cadres* of the former by voluntary enlistment, any officer who has served in India can testify. For the latter army there is no doubt that the sooner we are brave enough to adopt a general conscription, which we all acknowledge to be the measure required by the times, the sooner we shall be able to avoid panics.

Having arrived at the end of the course by which I would propose to make the only radical alteration called for, it now remains only to touch slightly upon the composition and training of the various branches of the service.

The strength of a battalion on a war footing appears to be a just estimate, enabling it still to be of value after sustaining the losses of a campaign, which cannot generally be the case in battalions of less strength, such as those of France and Italy. As, however, in its full strength it is neither possible nor advisable that it should be commanded by one man's word of mouth, it would appear necessary to divide it into two parts, or half-battalions, led respectively by the two majors, but under the general command of the colonel.

1. The greatest reason for an adoption of this formation lies in the fact that during peace time, and consequently during the greater part of a soldier's service, the battalion, of which he is a unit, is of the same strength as a half-battalion would be on a war footing.

2. The bodies so formed have a greater mobility.

3. They can be more easily sheltered from the enemy's fire.

4. Being immediately commanded by the majors, the colonel can direct his undivided attention on the ever-changing state of an action.

If any proof is wanting as to the actual working of such a system, we have only to turn to the 5th Prussian Corps during the campaign of 1866, and watch it especially during the action of Nachod; and in doing this, we should remark that the criticisms directed by German military writers against the half-battalion formation in their own service, on account of the invidiousness of selecting captains to command

those bodies, would not apply to us, who have two majors to each battalion.

Although the strength of the battalion should remain the same, it would certainly simplify movements, and give a higher mobility, to reduce the number of companies by two, and to form two of the remainder from the men most qualified for the duties of light infantry. Thus there would be eight companies in each battalion, two specially for light infantry duties—one attached to each half-battalion.

When the light companies of battalions were abolished, it was thought to do away with what had become an anomaly, and it was not supposed that the light infantry soldier would be called on again to play the important part he now does. As I shall presently point out, it will for the future be advisable, whether on the attack or defence, to prepare and feel the way with skirmishers, who must not only be perfectly trained, but be men of a quick and high intelligence. On them rests the crippling of the enemy's guns, and, in unison with the artillery, the weakening of his *morale*, before it is possible to undertake any decisive movement. Thus I consider it a duty that cannot for a moment be intrusted to every soldier of a battalion, which would only entail a useless sacrifice of life and waste of ammunition. To remedy this I would form two companies for each battalion from the most active and intelligent men, who must be good shots. Their training must be exhaustive and their practice constant, both in firing and exercise, special care being taken with regard to economy of ammunition.

In action these companies would be attached, one to each half-battalion, and led by the musketry instructor and his staff, and such other officers as have been specially trained for it.

In adopting mounted infantry, the carbines of dragoons, &c., might be abolished, which
Cavalry. would considerably lighten the weights to be carried; and this appears to be the only change required. Cuirasses might be discontinued with the same view. The whole cavalry should be distributed divisionally, and only assembled in brigades when extensive operations are imminent. By this means foraging is easier, and horses can be more cared for. This was the method employed with V. Wnuck's brigade in 1866.

To make our artillery the most perfect in Europe,
Artillery. it is only necessary to increase the mobility of field-artillery by providing for the gunners being rapidly transported with guns when required. The two famous guns at the Alma, whose gunners were far behind on their coming into action, is sufficient to illustrate the necessity for this.

The proportion of guns to men appears to have been somewhat less than 3 per 1000 during recent campaigns; but with their increasing value it may be necessary to augment it to at least 3 per 1000, probably more.

As campaign after campaign has shown us the
Mounted infantry. increased necessity of adopting mounted infantry, this want has, as yet, been only met by the answer that dragoons were originally

mounted infantry, and that it would be going back many centuries to create it. The utility of such a body is beyond controversy, and has been proved most fully in the following instances :—

1st. At Sailor's Creek in 1865, during the pursuit of Lee's army from Richmond by the Federal forces, Sheridan came upon a strong rear-guard of 8000 men under Ewell. Sheridan attacked the column on its flank before it reached the stream, and sending on three divisions of his dragoons, they crossed Sailor's Creek before Ewell formed up on the high ground on the far side of the Creek, dismounted, and, with their repeating rifles, held the whole of the Confederate columns in check.

2d. At the action of Tobitschau (15th July 1866), a company of the 4th Regiment was attached to the Hussar brigade and transported by country waggons. Being pushed forward to a ford through the Beczwa, they held it during the day.

3d. On the afternoon of the same day, a detachment of 150 engineers was mounted and sent from near Brunn to break up the line south of Goding. This important operation was performed within nine hours, though the whole distance ridden was upwards of sixty miles.

These examples, selected from many, are sufficient to show the useful part which such a corps as proposed would often play. It would form a part of every advanced-guard, and of every line of outposts, and if properly organised and trained, would be invaluable.

Another modern requirement, the mitrailleur, though acknowledged as a want, and even supplied, has as yet remained without organisation, and must consequently be considered useless. There seems to be much difference of opinion as to how this arm should be used, whether in separate batteries or combined with artillery. In analysing the small experience gained in the late campaign, we may arrive at a moderately just conclusion regarding this important point.

1. On the heights of La Villette, at the battle of Gravelotte, a battery of mitrailleurs was posted, each weapon behind a small epaulment. For half an hour the Germans shelled these heights with 120 pieces, and then advanced the 33d Regiment to the attack, which actually succeeded, though with great loss. The mitrailleurs were, however, retired 400 yards, and opened fire again, causing an evacuation of the occupied position, and following up the retreating remnants from their original epaulments. The attack was repeated again and again, accompanied by a tremendous artillery-fire; but the mitrailleurs, each behind its separate earthwork, were placed so that it was next to impossible for artillery to reach them.

2. At Hoing a battery of six mitrailleurs were so posted that the Germans attacking were plied by their fire, and fell back in confusion. From the above it may be decided that the mitrailleuse attains an immense power when carefully posted and protected on the defensive. The various experiments made have

shown their mechanism to be complicated, and that they are wanting in mobility. Under these circumstances, their adoption as light artillery would appear unfeasible, their combination with field-artillery unadvisable, their retention in fortresses insufficient, and it only remains to form of them small batteries; and to train them carefully as a totally distinct branch from artillery.

As there is no composition laid down for a British army in the field, and as these armies
 Composition of an army. have always been of different strength, &c., according to circumstances, it is necessary to give an outline of the supposed army with which I propose to operate in the following pages.

This army will be divided into two corps, each composed as follows:—

<i>Infantry</i> , . . .	2 Divisions of 2 Brigades of 3 Regiments of 2 Battalions of 1000 men.
<i>Cavalry</i> , . . .	8 Regiments of 6 Squadrons of 100 men.
<i>Artillery</i> , . . .	6 Batteries Field-Artillery of 6 guns; 2 Batteries Horse- Artillery of 6 guns.
<i>Mitrailleurs</i> , . .	2 Batteries of 4 pieces.
<i>Engineers</i> , . .	4 Companies of 125 men.
<i>Mounted Infantry</i> ,	4 Troops of 125 men.
<i>Reserve</i> , . . .	3 Batteries Field-Artillery, 2 Batteries Heavy Artillery, and 1 Mitrailleur Battery.

Making a total strength per corps of about 30,000

men, with 75 guns. An army of about 60,000 men with 150 guns, not including train, &c.

It remains now only to take into consideration the qualities of the British soldier, as compared with those of other European nations, before entering unfettered into the discussion of the points immediately before us. The British soldier is naturally brave and vigorous ; but so are also those of other nations : he is thoroughly disciplined and trained, and of an indomitable perseverance ; and in these qualities he can only be equalled by the German soldier, who has displayed them so conspicuously during the late campaigns. Where, however, our soldier is unsurpassed, not to say unique, is in the overbearing yet steady confidence which he feels in himself, and never fails to display,—a quality which must gain a certain success where other elements are pretty equally balanced. In adversity, also, or wherever endurance is called forth, he can always be counted upon ; in fact, the *morale* of the English army has never failed us in the hour of need. A brilliant instance of this may be cited in the retreat on Corunna.

In all ages the greatest victories gained have been due to the special development of some particular branch of the service during the preceding period of peace. We cannot, accordingly, be too earnest in endeavouring to learn the lessons taught us by each campaign as it passes.

(a.) *Mode of Forming the Columns of March when*

a Collision with the Enemy may be expected.—The great object to be regarded in forming the columns of march, when a collision with the enemy is expected, is so to regulate them that, no matter how suddenly the enemy may attack, they shall be able to meet him on favourable terms. To do this, especial regard must be had to the various arms of which the columns are composed, to the roads on which they are moving, and the nature of the country in front, together with the composition of the force before them, and the probable direction of its attack.

In whatever manner they are formed, the measures taken for their security, and for the purpose of obtaining information of the enemy, will be essentially the same, and will be treated of presently under a different head.

In the vicinity of the enemy, the heavy baggage, reserve commissariat transport, and reserve ammunition park, are kept at least one day's march in rear. The light baggage marches in rear of regiments, as well as ammunition and hospital waggons.

An army is formed into few or many columns, according to the object in view and the roads which offer themselves for the purpose. Thus the French army, during its advance upon Casale in 1859, was broken up into a number of small columns; whilst, on the other hand, the Prussians marched into their positions before the battle of Koniggratz by divisions, and even by corps. The most advantageous formation for our army to march in would be four Division Columns, so far apart as to enable each to reach midway in a

moderately short space of time. I will take one of these division columns as a pattern for all.

The usual custom on the line of march in all countries is to divide the column into three parts—one-fourth to advanced-guard, one-half to main body, and one-fourth to reserve; consequently, of a division, one brigade is divided between the advanced-guard and the reserve, the other brigade being kept intact. This arrangement seems to be useless, and a study of some of the most modern actions will show it to be pernicious.

At Gitschin the two grenadier battalions of the 12th Regiment were in reserve, the other regiment of the brigade advanced against the precipitous heights of Priwiszin, forming the first line, the usual destination of the advanced-guard. The reserve, seeing their comrades in want of support, could not be restrained, and joined in at Ginolitz, entirely against the will and intention of the divisional commander. The same happened with Fransecky's division in the struggle round the Swiep-Wald at Koniggratz. Besides this, the commander of the advanced-guard will long for the other regiment of his brigade in the hour of need, and look with less trust upon the reinforcements sent him from another. As, further, there seems no possible reason for such a formation, why should it not be simplified by dividing the column in two parts only, an advanced-guard and the main body, at the head of which would be the remainder of the brigade which furnished the former? By this method the advanced-guard engaging would be supported by its own brigade,

and it would of course be at the option of the divisional commander to keep any portion of the main body in hand as a reserve. Another advantage in this method is, that it facilitates the formation of another advanced-guard for a different direction without breaking into the second brigade. This was exemplified by the 1st Prussian Division in its advance on Trautenau in 1866.

The actual formation depends chiefly upon the following points :—

1. Nature of country.
2. Nature and state of roads.
3. Vicinity of enemy.
4. Object in view.

In even ground cavalry and horse-artillery generally march at the head of the column, ready to support the advanced troops ; in hilly and broken ground their place should be taken by infantry and field-artillery. The artillery should never be too far in rear ; it should indeed sometimes follow, in great part, the advanced-guard. In enclosed country, with passes, &c., only a few guns can, however, be used, as no more can be brought into action. Thus, in advance of 2d Division on Trautenau in 1866, only six guns were with head of column. In such cases the remainder of the guns should not be too near the head of the column, for fear of disaster should it be attacked and forced back. Whenever it can be managed, however, the guns of the main body should be kept together, ready for action as soon as a front is formed. If they are separated, each leader seeks his own aim, and the general

object is merged, as was the case with the Prussian artillery at Koniggratz.

The march should always be conducted on the largest possible front, the infantry and cavalry marching on either side of the road, where the country will admit. A part of the road itself should be kept clear for the passage of orderlies to and fro, and to allow of the cavalry and artillery being brought rapidly to the front.

In a flank march, the column nearest the enemy will serve as an advanced-guard, being
Flank march. ready to form its front at any moment.

The infantry and field-artillery will be in the centre, as they have the greatest power of defence; the cavalry and horse-artillery at the head and rear, so as to be on the flanks subsequently.

If the cavalry is massed, it will march with its own artillery in a separate column, further removed from the enemy than the infantry; the reserve artillery beyond it again.

Discipline cannot be too strictly adhered to on the line of march, and it helps much to maintain it when the general commanding makes it a rule to see his column march past him every day, when he will also be able to see that the proper intervals are kept and no space lost. This was done almost universally by the Prussian generals during the campaigns of 1870-71.

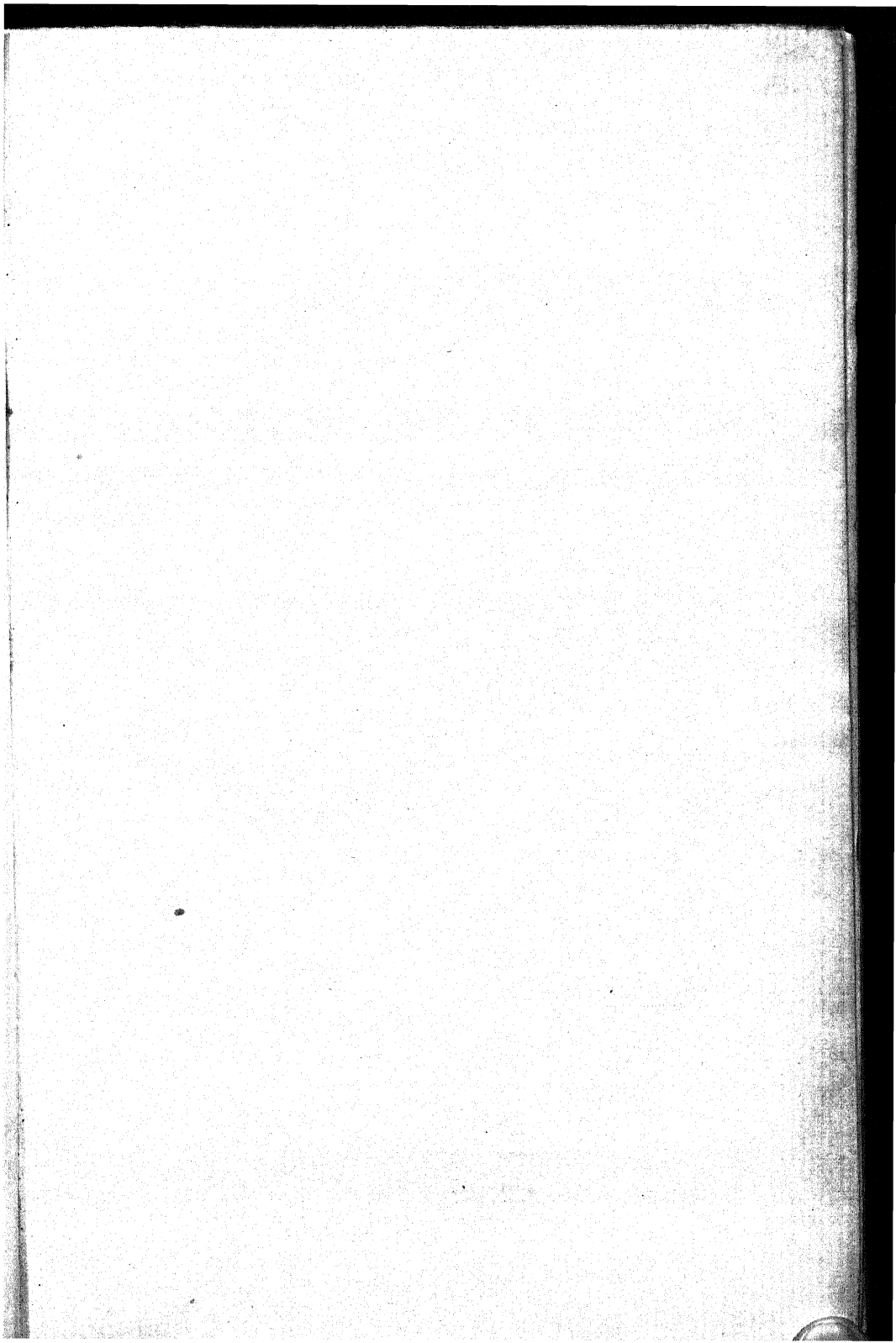
The columns should follow their advanced-guards at a distance varying in accordance with their depth, and consequent time necessary to form line of battle.

The strength of the division being as follows,—

<i>Infantry,</i>	. . . . .	12 Battalions ;
<i>Cavalry,</i>	. . . . .	4 Regiments ;
<i>Artillery,</i>	. . . . .	3 Field-Batteries; 1 Troop Horse- Artillery ;
<i>Mounted Infantry,</i>	. . . . .	2 Companies ;
<i>Mitrailleurs,</i>	. . . . .	1 Battery ;

the column of march, in ordinary ground, will be composed in the following manner: Advanced-guard: 1 troop of light cavalry will form the extreme advance for the purpose of feeling the way, supported by two and a half squadrons at from 200 to 300 paces. About the same distance in rear, again, follow 2 companies of infantry, supported by the remainder of the battalion at 300 paces, immediately followed by a division of field-artillery of 2 guns, as it does not appear advisable to divide a battery of 6 guns into two equal parts, on account of its giving an odd number of guns. An engineer company will be in rear of these guns, followed by a mounted infantry company. This will form the advance, or van, of the advanced-guard, which it is judicious to form, to allow the mass of the latter to form up steadily in case of being attacked. The main body of the advanced-guard follows at about 500 paces, headed by the 2d battalion of the infantry regiment which has preceded it. This will be followed by the 4 remaining guns of the battery; in rear of which a whole regiment, followed by an ambulance detachment; the rear being closed by the three remaining squadrons of the cavalry regiment.

At about 1000 paces will be the head of the column, consisting of a cavalry regiment with two



COLUMN OF MARCH.

VANGUARD.

- 1 Troop Light Cavalry.
- 2½ Squadrons Light Cavalry.
- 2 Companies Infantry.
- Do. do.
- 1 Half-Battalion.
- 2 Guns.
- 1 Engineer Company.
- 1 Mounted Infantry Company.

500 paces

ADVANCED-GUARD.

- 1 Battalion Infantry.
- 4 Guns.
- 1 Regiment Infantry.
- Ambulance Detachment.
- 3 Squadrons.

PLAN 1.

1000 paces

MAIN BODY.

- 1 Regiment Cavalry.
- 2 Horse-Artillery Guns.
- 1 Infantry Regiment.
- 2 Field-Batteries.
- 1 Infantry Brigade.
- 1 Mitrailleur Battery.
- 1 Cavalry Regiment.
- 4 Guns.
- Ambulance Det. Div. Waggon.
- 2 troop Escort.

horse-artillery guns ; a troop of the former will be detached to keep up communication with the advanced-guard, and another troop will be told off for orderly duty and attached to the headquarter staff. The remaining infantry regiment of the leading brigade will march next, then two batteries, followed by the 2d infantry brigade, in rear of which a mitrailleuse battery, a cavalry regiment with four horse-artillery guns, then another ambulance detachment, divisional waggons, &c., closed by one troop of cavalry from the rearmost regiment. Plan 1 contains a recapitulation of the order of march, which, however, must always vary according to the circumstances mentioned before. The distances between the advanced parties and between the advanced and main bodies of the force will also vary ; but, as a general rule, the intervals in the actual column should be—

Between Companies,	. . .	10 paces.
„ Battalions, Squadrons, Batteries,	20	„
„ Regiments,	. . .	40 „
„ Brigades,	. . .	80 „
„ Divisions,	. . .	300 „

The reserve artillery will follow whichever division of the corps the commander may order, being supported by escorts from it ; or it may, under some circumstances, march between the two divisions. In this case a stronger escort must be provided than usual. It may, in some cases, be a judicious economy of forces to make one advanced-guard suffice for two or more columns ; but this can only be done in exceptionally bare country, and what is gained in economy

of men may be lost in the want of tactical unity which is entailed.

The heads of the various columns should be connected when possible by light troops, and when it is not, by frequent patrols.

(b.) *Mode of Covering an Army on the March, or in Position, in order to Conceal its Movements, and to obtain Information of those of the Enemy.*—If the safety of an army on the march depends in a great degree upon its formation being so suited to circumstances as to enable it readily to form up and repel an attack, how much more essential it must be that the columns should be given sufficient time for such a formation, and should also have a fair idea of the strength and intentions of their opponent; and this is easily obtained by a well-regulated system of covering, which cannot be too frequently practised nor too carefully studied. It is evident that a system which is created with a view to pushing as near as possible to the enemy, and obtaining information on all sides, is readily made to answer the purpose of concealing the movements of its own columns from the enemy; I shall accordingly treat of the two as "*a method of covering an army on the march.*" The special detachments used for this purpose can be all embodied under the heads of advanced-guard and flank detachments.

The former of these differs extensively in its strength, composition, and arrangement, according to the ends in view, the composition of

Advanced-guard.

force in front, and the nature of the country. As a general rule it is composed of all arms, and the head formed of cavalry, for the purpose of examining the ground. In some cases, however—such as in very broken country, and when entering defiles—infantry must be used, and the proportion of these two arms is fixed accordingly. Thus the 5th Prussian Corps, advancing on Nachod in 1866, had only seven squadrons attached to the advanced-guard, which were kept mostly in rear, while the infantry was five and a half battalions strong. Even in this case, however, a small body of cavalry will precede the infantry, but it must be followed by only a company of infantry, at most, to support it; for were it to be turned, in a defile for instance, it would ride over everything in its way. Thus, on the march of 2d Prussian Division to Trautenau, a few horsemen were in advance, and were subsequently augmented to a squadron, on account of the appearance of the enemy's dragoons; they were, however, only supported by one company.

Having already described the supposed strength and composition of an advanced-guard, it is unnecessary for me to recapitulate it, and it only remains now to show what portions of it should be specially destined to obtain and bring the earliest information of the enemy. In an open country this duty will be provided for by both cavalry and infantry,—the former keeping well to the front, the latter looking more to the protection of the flanks. As our column has been formed, patrols would be continually sent out from the leading troops, the squadron following providing

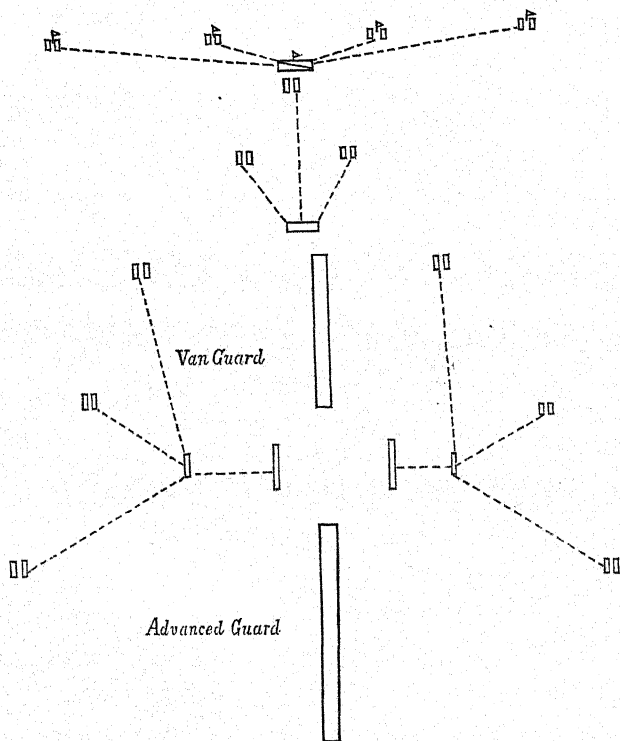
stronger ones if required, and also those for side roads when necessary. The latter will not generally be required to proceed far, except in foggy weather or during the night, when they will remain until the whole column is past, falling in at the rear. In rear of them the leading infantry party will send patrols to its front, right and left. The two battalions at the head of the main body of the advanced-guard will detach each a company, or more if required, to the right and left respectively, which will be formed in the usual way for a company as advanced-guard, facing outwards from the column, but will move parallel to it at about 150 paces on either side, between the van and main body of the advanced-guard, thus being ready at a moment's notice to turn to their front, when they would be supported by their respective battalions and the guns in rear of them.

Under this head are included both the ordinary infantry parties, which should never be neglected on the line of march, when the ground will allow of them, and the stronger bodies of all arms which are employed in flank marches, or whenever one of the flanks may be particularly exposed to an attack in force. With the latter we have nothing to do. The former should be composed of infantry, in strength according to the depth of the column, which should march on either flank abreast its centre, at about 300 paces distance, formed in the same manner as the flanking companies of the advanced-guard. These parties should be furnished from the 2d brigade. Their object is more to pre-

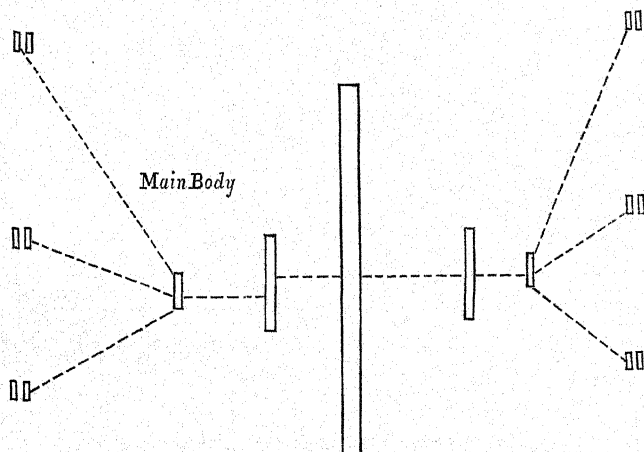
Flank detach-
ments.



COVERING OF ARMY ON MARCH.



PLAN 2.



vent the enemy overlooking the column and calculating its strength, than as a defensive measure. The extended files, accordingly, should be instructed to ascend all eminences within reach, to see that no enemy's patrols are hovering about to obtain information.

In very rocky ground, unless roads or valleys run parallel with the one marched upon, flank detachments cannot be used. In these cases more care must be taken in pushing patrols down the side roads.

The above is a general idea of the standing method of protection to be taken by a column such as we are dealing with in a moderate country. Plan 2 will give a general idea of it. In open ground, however, the use of light cavalry patrols would be far more extensive, requiring a considerable augmentation of that arm to the advanced-guard. If very open, it might even sometimes be advisable to push forward a whole regiment with horse-artillery, escorted by mounted infantry, to a considerable distance. In neither case can the infantry patrols be dispensed with, but must exercise always the greatest circumspection during their advance, for it must be remembered that the cavalry might be cut off or forced to a flank. In open country the leading infantry patrols will assume the form of a line of skirmishers.

These various measures will provide the whole body with an extensive system of patrols, stretching for 500 paces all round, beyond which distance the infantry should never be extended, with an outer line of cavalry to the front, as far as 1000 paces, and

even more—the whole resembling a beetle, of which the legs would be formed by the infantry, the feelers by the cavalry. Such a complete chain, however, can only be attained in such countries as Belgium, Hungary, &c. It is not to these measures alone that security is due, and that sufficient information can be obtained of the enemy. The best method of doing this has been repeatedly proved to be by means of well-trained patrols; of these I shall speak later.

It is now time to turn our attention to the covering of an army in position, remembering that though it is pardonable for an army to be beaten, it can never be so for it to be surprised. A distinguished French officer, writing of us after the Crimean war, said: "*Les Anglais se gardent mal, et mettent je ne sais quel puéril orgueil à ne point se garder;*" and perhaps there is some truth in his assertion. The disastrous effects of a neglect of these precautions is to be seen in almost every campaign. At Gettysburg, Lee was taken entirely by surprise, having had no idea of the enemy's movements in consequence of the absence of Stewart's cavalry. At Weissemburg the neglect was much greater and was inexcusable; the line of the Lauter was preserved by a single division, which was pushed close up to the river without any extended line of outposts, and no attempt was made to obtain information in any way. As a rule the outposts should be furnished by the advanced-guard, reinforced or supported by the main body if necessary. This duty is the most trying of any to the soldier, as it requires

constant and unremitting attention. Accordingly it cannot be too strongly impressed that the great secret of posting these troops is to employ as few actual posts as possible, always providing that no portion of ground escapes examination. This can only be arrived at, as a rule, by a small number of posts, when the ground is unwooded and clear. Sometimes, however, broken and wooded ground will allow of it; before Trautenau, for instance, the 2d Prussian Division placed advanced posts for the whole corps with one company and a half of infantry and one squadron and a half of cavalry, or 250 men and 120 horses. This was due to the conformation of the ground, which ran in two rows of heights from east to west, with a broad valley between sloping to the south, so that from either ridge an extensive view was obtained.

The object of outposts is not only to prevent the camp being overlooked, and to give timely notice of the enemy's approach, but also to prevent all communication between any person who may have been allowed within the line and the enemy. This point was totally neglected by the French during the late war, particularly when posted along the line of the Lauter. Although careful about who entered in, the privileged ones were always permitted to return by the way they came, which was particularly pernicious in this case; for these were generally peasants of the surrounding district, who, half Germans, and mostly favouring their cause, imparted much information to the enemy.

Care must, however, be taken not to fall into the opposite extreme, and guard the approaches insufficiently; for though such an error might go a thousand times unpunished, yet when the punishment did come, the catastrophe would be great.

The several portions of a system of outposts should be as follows, the whole being supported by the army, corps, or division in rear :—

Composition of outposts.

1. Sentries (or vedettes).
2. Pickets.
3. Supports.
4. Main body of outposts.

The double sentries will be posted by the commanders of pickets in such a manner that as few as possible are employed, without, however, leaving any point unwatched. They must have a clear view to their front, and be able to observe all the principal points of approach, and see the sentries on their right and left without being themselves seen. This latter can always be provided for, by taking advantage of natural cover, or creating artificial. The most advantageous ground for posting them is along a well-marked position, either heights, border of wood, or river. Any elevations from which an enemy could overlook the camp or bivouac should be comprised in the chain, or occupied by a separate detachment. When it can be avoided, the line should not be carried through a wood, but should either embrace it or keep it out of range. If it is necessary, however, a broad path must be cut

Double sentries.

through, it and the near side protected by abattis. In posting the sentries the following directions should be given, and repeated to each relief:—

1. Number of the double sentry, and the picket.
2. Direction in which the enemy stands.
3. Names of the principal points of the surrounding country.
4. Position of the next posts and of the examining party.
5. Position of picket, and nearest road to it.

There are many other orders, but mostly such as should be a part of the soldier's drill, and with which he ought to be thoroughly conversant.

The picket, consisting of a half-company, will be posted about 400 paces in rear of the centre of its sentries, which should, when possible, be kept in view, as well as the pickets to the right and left, which will be about 800 or 1000 paces distant, according to the nature of the ground. When feasible, it will be placed in the vicinity of a road, as far as possible under cover, and in a position capable of defence. Orders will be given regarding the precautions to be observed, such as whether fires are to be lighted, smoking allowed, and silence to be maintained. Under no circumstances must there be a want of alertness at night, neither must knapsacks be taken off or horses unsaddled. After the party has been told off into reliefs and patrols, arms will be piled, and a sentry posted over them, when the men will be permitted to fall out. Connection will be

kept up with the neighbouring bodies by means of patrols.

The supports, in the proportion of one to each two pickets, and of the strength of three companies, should be posted about 800 paces in rear of their centre, well covered, and as near a road as possible. It will secure itself by means of sentries, and keep up constant communication upon all sides by means of patrols. The orders given for the pickets apply equally to the supports.

The main body, composed of the remainder of force
 Supports. —generally about one-half of the whole
 Main body. —will be placed in rear of the centre, if possible at the junction of several roads leading to the front. Its distance will mostly depend upon the situation of a suitable well-covered position, which must always be taken advantage of. The main body will always be ready to turn out, horses being kept saddled, and the men having their accoutrements on, and the guns ready to move up to such emplacements as have been prepared for them in front.

Quarter and rear guards will be posted as in ordinary bivouac, and patrols will keep up the connection with the front.

Cavalry pickets will be posted on the principal roads, at fords, or wherever their presence may be desirable. On open ground they may be pushed some way in advance, and a regular chain maintained, as with infantry. The strength of a cavalry picket will be about 100 horses, providing 16 vedettes, which, being about 800 paces

apart, would cover upwards of six miles, still keeping 50 in hand. Half a regiment could fully form all parts of such a chain, and the other half remain with the reserve.

A proportion of cavalry should also be attached to each picket for orderly duty, patrols, &c.

The precautions advocated for infantry on these duties apply more strongly still to cavalry, whose safety as well as that of the body it is covering depends often upon the intelligence, circumspection, and alertness of a single horseman. The details of this service are, in the main, similar to that of the infantry. The horseman has one drawback, being comparatively defenceless, which should invite him to increased vigilance; but he has, on the other hand, a help in the animal he is on, which will never fail to give him timely warning of approaching danger.

This, then, completes the distribution of the various bodies composing the system of protection and veiling which is embodied in the term outposts, and I will now endeavour to exemplify it by posting in detail our before-mentioned advanced-guard.

Its commander having sent instructions to the leader of the van telling him of his intentions, and directing him to take the extreme right, resting on a given point, continues his own advance until he arrives at a suitable spot for his main body. Here will be halted his second regiment, guns, and ambulance detachment, which will be joined by the portions of the van not required more forward. The commander of the latter advances, preceded by his cavalry,

which will be scattered in many patrols, until he reaches the spot where he considers his right support should rest; here one half-battalion will be halted, and its commander directed to push forward two half-companies as pickets, and place the necessary sentries.

In the mean time the other half-battalion will have been directed to move from 800 to 1000 paces to its left, to a favourable position, and push forward pickets in the same manner. The commander of the advanced-guard advances still with his two remaining half-battalions, with the three squadrons clearing the ground in front, until he reaches the left of the last posted support, when he will make any alteration he may deem necessary in the dispositions of the right half of the chain, and direct the posting of the left half in the same manner. Cavalry pickets will then be posted on the principal roads, fords, or other necessary points; the examining party will be placed on the chief road, and the line will then be complete.

Although intimately connected with outposts and actually provided for by them, the system of obtaining information of the enemy is so important, that I have thought fit to treat of it separately, referring both to an army on the march and in position.

A certain number of cavalry officers, picked for their intelligence, knowledge of the language of the country, and good horses, report themselves to the commander of the advanced-guard, who gives each one his particular orders. Accompanied by a small, well-mounted escort, they dash off to insinuate them-

selves almost into the very ranks of the enemy, trusting to their own presence of mind, the swiftness of their horses, and the surprise of the enemy for their escape. By the statement of Prussian officers of high rank, the intelligence secured this way was wonderfully great, and the losses sustained on these expeditions remarkably small. General Douay, at Weissemburg, owed his attack, defeat, and death, to the information obtained by the enemy in this way. From the beginning to the end of the campaigns they were employed with the same result, though perhaps not in such a striking manner. That the French fully appreciated the value of these and like undertakings, may be assumed from the speech of an eminent French officer at Metz after the investment, when he summed up the calamities of the French army as follows: "*Aucune reconnaissance de cavalerie durant toute la campagne.*" Though it is in general a dangerous experiment to adopt unreservedly any system of another nation, I think we cannot go far wrong in undertaking for the British officer a task for which the qualities required are presence of mind, a quick eye, and good riding.

Besides those special patrols there are others, both of cavalry and infantry, which may be disposed of under the following heads:—

1. Secret patrols.
2. Strong patrols.
3. Reconnoitring patrols.

The secret patrols should be provided by the picket, and consist of from 2 to 3 men, picked for persever-

ance, presence of mind, and activity, which always gives the power of decision in moments of danger. These men should be changed as little as possible, so that they may become thoroughly acquainted with the ground. The commander will give them their orders each time they go out, and receive their reports on return. They should never proceed too far, and must move always with the greatest vigilance. As a rule, cavalry will be used during the day in open country; infantry by night, or during foggy weather, and in close country. If it is necessary to send infantry patrols far to the front, they ought to be stronger, and accompanied by cavalry orderlies.

Strong patrols of 6 or 8 men, taken from the support, are sent sometimes with a special purpose, and dislodge the enemy's patrols or posts, so as to get information of what is going on behind. Moving with the same care as secret patrols, they must attempt to surprise. This kind of patrol should generally be conducted by cavalry; by infantry only by night, or in very difficult ground.

Reconnoitring patrols are generally taken from the main body, and are composed of all arms, but principally of cavalry with horse-artillery, which can break off an engagement easier than infantry. Their object is to drive in all posts and unfold the enemy's position. The commander of the patrol should explain his object, more especially to a select body of cavalry to which he will attach himself, and will name a place of rendezvous. Advancing as an advanced-guard, and marching by a byway with every precau-

tion, with this cavalry in front, he will fall with it on the enemy's posts, pass them, and rapidly attain the point selected by him before. From here he will observe the enemy, and look for the information he requires, while the remainder of his patrol attacks and causes the enemy to develop his forces.

It may be seen from the foregoing that cavalry is constantly called upon to furnish parties for an infinity of purposes, and therefore should be carefully economised. Too often this is not done; horses are expected to work without intermission. There could be no greater mistake, however; horses want more care than men, for they have not the moral courage which sustains a man. They must be regularly fed and rested, and a commander should be most careful not to employ a single horse more than is absolutely required.

The following methods of obtaining information I must mention without discussing :—

1. By means of paid permanent spies.
2. Officers or men disguised entering the enemy's lines for the purpose of obtaining some special information.
3. Deserters.
4. Prisoners.
5. Country people.

The information of the first is not to be depended on; they will generally be ready to give false information for a higher pay. The second case is invaluable, but the undertaking most dangerous. That of the third is not to be trusted; deserters will endeavor

our to please their new masters to insure good treatment. Prisoners will sometimes give a great deal of valuable information if carefully examined by an officer well conversant with the language. If nothing else is gained, their uniform will betray the corps to which they belong, and their condition will tell tales; nothing should be overlooked. Accordingly, enemy's patrols should be captured when possible, from time to time, by the rapid advance of a strong cavalry patrol. The information of country people is not generally of much value, on account of their ignorance of military matters; but by finding out how long troops have taken to pass through a village, and other apparently insignificant points, much may be gleaned.

(c.) *Mode of Forming, Combining, and Employing the Different Arms for Attacking an Army in Position.*—Although the introduction of breech-loading arms has entirely changed the mode of employment of infantry, the chief qualifications remain the same. Weight, determination, and discipline are still necessary, and an infantry which possesses them in the highest degree, and which has been the most completely trained in the management of the new arm, will, if properly led, come out victorious on the day of battle.

Infantry.

The latter point is what we should chiefly direct our attention to while we have yet time, profiting by the rich experiences which have cost our neighbours so much. In the campaign

Development of
fire.

of 1866 we saw the breech-loaders pitted against the muzzle-loader, and we were tempted to put the rapid successes of Prussia down to her superior arm; but we know now that it was owing more to her superior tactical formation and strategic art. At Podoll the Prussians fired upon troops crowded in the narrow village street; at Nachod they fired from a wood on the enemy in the open. They gained confidence as their opponents lost heart; yet in the subsequent operations, the difference of armament had little physical effect. Can any one maintain that, had the contending armies changed arms at the battle of Koniggratz, the result would have been different? The victory was due simply to the bold though rash strategy of the Prussians, and to the singular ignorance and slowness of the Austrians.

Prussian tactics were based upon the independence of small units, which, without special orders, attacked when it appeared advantageous, and took the offensive by a skilful combination of fire and shock tactics, as well as by sudden flank attacks. The Austrians advanced in masses, without preparation from fire, and without combination. The Prussians, thrown suddenly on the defensive by these heavy attacks, fell back into line to receive them with fire, and the readiness of half-battalions and company columns to change formation showed conspicuously. The Austrian artillery was superior in number and in tactics. That the lesson here offered was fully studied by Prussia, the late campaign has taught us.

Turning now to the campaigns of 1870-71, we have the conditions actually reversed, the victors being in possession of an inferior arm. Here at least the victory could not be put down to the arm; and so it had to be acknowledged that it was not exactly the arm, though it was closely connected with it—being the handling of it, the command over it, and the tactical formations introduced to suit it. After the storming of the Gaisberg, numbers of prisoners were taken who were without ammunition, the French having commenced firing wildly at immense distances. In the same manner, throughout the campaign, everything that appeared was met by a storm of bullets, fired with no particular aim, and often when the object was out of range. Thus the ammunition was nearly expended, and their *morale* shaken by the small effect produced by their fire before the enemy approached. Nevertheless, the manner in which they received attack was generally admirable, and the losses they inflicted immense; and had their enemy trusted only on his fire and direct attack, he would often have failed.

From these examples we cannot fail to learn the absolute necessity for an increased training of our infantry soldier in the use of his arms. It is not target-practice we want, but rather a movement in the opposite direction. It is utterly impossible to make every soldier of a battalion a good shot—it savours of the ridiculous to attempt it. Let the best shots be practised at individual firing up to 900 yards, as far as possible at intervals during the year, and the

whole of the skirmishing companies up to 800 yards ; but do not allow the ordinary soldier to fire at long ranges, and even at short ones let it be mostly in volleys. At the battle of Gravelotte, a battalion of Jagers advanced between Verneville and St Privat, over about 1500 paces ; by the time they arrived within 300 paces there were but three left. It can be imagined, then, if this is the effect of an ill-directed fire at long distances, what the effect of a well-directed fire would be at the remaining 300 yards upon the remains of the advancing force, already weakened by the fire of the artillery and skirmishers. This seems to be the only method of attaining a complete control over the fire, and a consequent economy of ammunition. The rapid momentary deployment of bodies, to enable them to deliver their fire with the greatest possible effect, must be thoroughly mastered.

It should be one of the branches of the skirmisher's special training to work up to and disable the enemy's artillery. No artillery should be able to stand within 500 yards of skirmishers ; and as this is the extreme range of canister, a battery is robbed of one of its most useful projectiles. Besides this, such a crippling of a battery is the best preparation for a cavalry charge or infantry attack. The effect of our fire on the Russian guns at the Alma, at a distance of 800 yards, shows what can be done by a well-directed fire in this way. At Koniggratz some guns were actually captured by skirmishers, having waited to limber up until the last moment. Should a direct attack on

Infantry against
artillery.

artillery be necessary, the infantry must keep as far as is possible completely under cover up to 700 paces, at which distance its fire begins to have the advantage, preceded by skirmishers. It will then fire by small volleys, attacking subsequently in loose order both on front and flanks.

One of the principal points to be inquired into is the actual formation of our infantry for attack. I have already advocated the division of our regiments into two battalions, of which half-battalions should be the normal formation. Starting from here, then, what more is required?

Should the company column formation be adopted? I think not. It has answered admirably with the Prussians during the last campaign, for they were able to correct its disadvantages, so strongly shown in 1866. The elements of the Prussian company are wanting to us. Their leaders are men of mature age and perfect knowledge of their art, who look upon their profession as their chief interest in life, and upon their company as a home, and they possess, accordingly, the reverence and confidence of its members. This is finely described by a well-known German officer who fell in the late campaign, in the following words: "The beautiful relationship between the soldier and his captain is a corner-stone of the Prussian army, and not the least firm one. The company fights independently, not because such a body is within the compass of the human voice, but because it is a magnet which attracts

the scattered elements by means of the feeling of the soldier that it is home." This is no exaggeration, and the working of it can be traced through all the actions of the Prussian arms. Before, then, adopting such a system ourselves, it is judicious to inquire into these relations between company officers and their men, as also to look to the individual qualifications of the captains. Every one who reads this will know their merits, and also their shortcomings, and will agree with me, I think, that, great as the former are, the latter are of such a nature as to preclude a general adoption of the system we are analysing.

Besides this principal reason against doing so, there are many disadvantages inherent in the system, which have not yet been entirely eradicated by the Prussians themselves.

The companies, once separated, must be under the immediate command of their respective commanders, who, after receiving the necessary instructions as to the end it is proposed to attain, must be left to themselves to work it out. Thus the knowledge and experience of the field-officers would be thrown away, and the fighting units would in many cases be intrusted to young officers, whose want of experience could be ill balanced by their zeal.

Again, the confusion entailed by the mixing up of men of different companies, which always occurs to a great extent in action, must be much greater when each company is a separate unit, than if only the battalions or half-battalions had to be kept distinct.

This was clearly exemplified at the actions of Trautenau and Langensalza, as well as in the Maslowed wood at the battle of Koniggratz.

The advantages of the distinct training of companies to enable them to work separately must be apparent to all, and perhaps British officers have been always more ready to place their companies on their own resources, when opportunity offered, than those of any other nation. But this is vastly different to accepting company columns as the normal formation.

Before deciding hastily which will for the future be the best formation for infantry advancing to the attack, it is advisable to review shortly some of those successfully used during the latest wars.

At Solferino, the French, in deference to the opinion elicited from the great authority, Jomini, attacked the hill in line of contiguous columns several battalions deep, and, although advancing under a heavy fire and losing dreadfully, they carried it. At Gitschin the Prussians attacked Diletz in column, and although successful suffered terribly. In the advance on Horenowes, at the battle of Koniggratz, the Guards moved in echelon of battalion columns, and marched straight on to the batteries in this formation.

At Gravelotte, the French right having changed position, the Germans concentrated and attacked in column, which was partially successful, though it eventually failed. They then tried the attack in open order and were utterly repulsed. On the other hand, we see the column formation frequently unsuccessful.

At the Alma, a Russian column, composed of 1500 men, was checked and dispersed by a broken chain of skirmishers. At Chlum we see the Austrians, attacking in heavy columns, thrown back with terrible loss by the steady fire of a comparatively insignificant force.

At Mars la Tour, the French, advancing steadily against the enemy in deep column, were repulsed each time before approaching the position.

The German Guard themselves, attacking St Privat in column, were forced to fall back.

It now only remains to examine the experience we have had in the other formation of open
Formation in open order. order. The nearest approach to line formation which we have seen of late years was at the introductory scene to the battle of Alma. Here the British troops moved as on parade; but still the disadvantages of a pure line soon manifested themselves, and one regiment was forced to fall to the rear. On its further advance all semblance of regularity was broken by the first obstacle it encountered, and its attack is described as follows: "It seemed that the advance was an irruption of skirmishers, without due order of any kind, but converging. When it came to be understood that an advance without formation was sanctioned, the whole of the force, clubbed and broken into clusters of men, began to move up the slope."

At the battle of Chatanooga all regularity of lines was lost; each of the brigades was broken into some half-dozen groups, each group headed by a flag, and

everywhere struggling to go forward. They fired but few shots.

The storming of the Gaisberg at Weissemburg, though carried out by the bayonet, was in the same loose order, irregular lines, rallying at intervals to obtain shelter or to push an attack.

At Gravelotte the attack on the village was effected by one of the brigades in the following manner : Advancing at a double, they lay down at least half-a-dozen times on the way, until when within 500 yards they sought cover and fired some 50 rounds in volleys. Springing up and forming in the middle of the road, they then charged. The same formation was adopted by the left brigade of the Guards at Le Bourget, and with the greatest success. The centre, which was in closer order, suffered enormously in proportion.

But in this formation, too, there were failures, as there must be in any. The attack of a battalion of Jagers, for instance, in this manner, between Verneville and St Privat, is thus described : "Spreading out in thin lines, we are running on while our breath lasts. But we are exhausted even before we can see the enemy. We are still 1000 paces from the French and must take breath. Now on again a few paces, now again and at them at the run. At last we get within 500 paces, and eventually, being supported, to 300 ; but ammunition was exhausted, and by the time that bayonets could be crossed only three men remained."

From the above we may, I think, draw the following inferences :—

1. Column formation invariably entails enormous loss if used for actual attack.
2. Line formations are impracticable.
3. The natural form assumed when once the original order is broken is that of an irregular line of small groups, concentrating behind any cover for the shelter it provides, and also before attack for the feeling of security which contiguity gives on such occasions.

Surely there is no doubt about which to adopt as a fighting formation. Let us use the first by all means for our reserves, and, where cover allows, for our supports also; but never place a column in the open within 1000 yards of the enemy's position. At greater distances it may be permitted, unless halted, for ground is seldom so even that a half-battalion column on the move can offer a steady aim. One thing we find common to each form of attack—viz., the early advance of a skirmishing line, and the preparation for the attacking line by its fire; and I consider this a most necessary introduction to every attack.

It is difficult to lay down any rules whatever for a battalion acting by itself, and I shall presently give the general plan for the attack of a brigade. However, the general division of a battalion by itself would be the two skirmishing companies in advance to prepare the attack by their fire, followed at 200 paces by the two leading companies of each half-battalion in open order—that is, in line with intervals between the files, and about 100 paces in rear of their outer flanks, the remaining companies of the half-battalions in column of sections, or

Attack of a battalion.

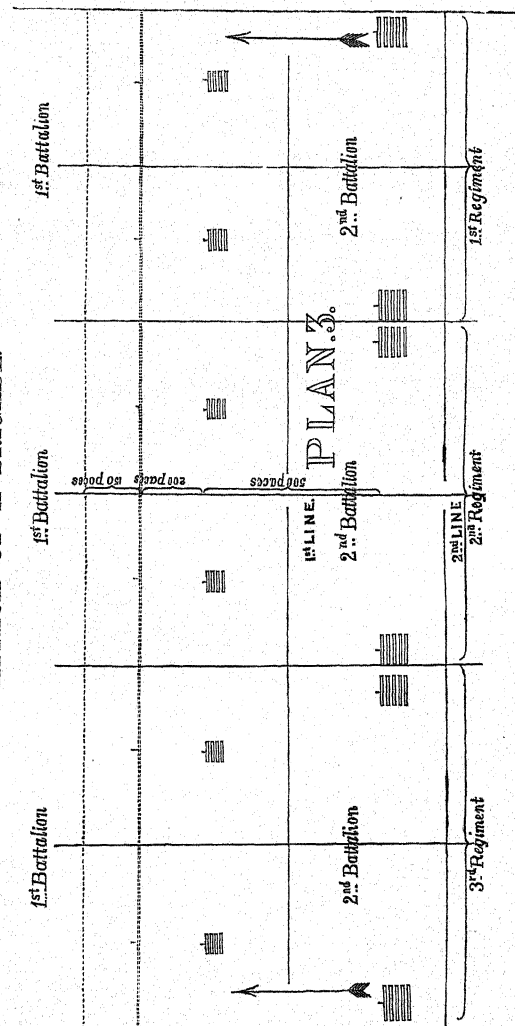
such other formation as might be suitable for the ground. These remaining companies would eventually be destined in all probability to work round the flanks, while the enemy was engaged in front. Echelon, however, or the separate employment of the half-battalions, may be preferable under some circumstances ; the former, in particular, is often most useful. In such a formation one half-battalion would probably provide the skirmishers and form the echelon, while the other would support its head or act separately on the enemy's flank.

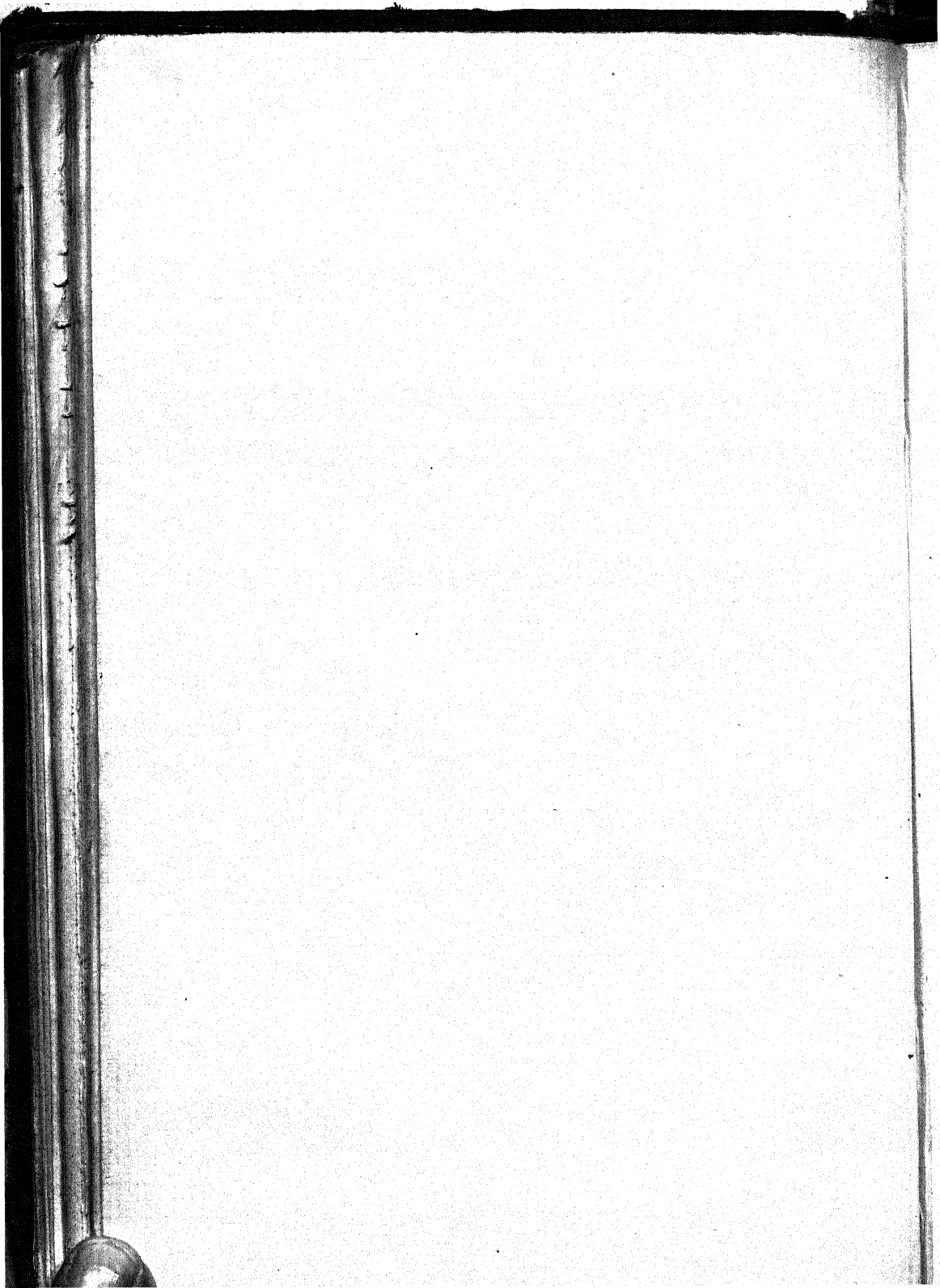
The attack of a brigade can be laid down more definitely ; but this also must vary considerably, according to the nature of the ground. On coming within 1500 paces of the hostile position it will be advisable to form the brigade for attack. It will accordingly be ranged in two lines, one battalion of each regiment in each line. The skirmishing companies of the first line will then advance, followed at 150 paces by the two leading companies of each of the half-battalions in open order, 200 paces in rear of which will follow the remainder of the half-battalions. These may be in column if cover will permit, otherwise by companies in columns of half-companies, or even in fours.

The second line will follow at 500 paces in half-battalion columns in rear of the flanks of their respective front battalions.

On the skirmishers arriving within between 300 and 400 paces of the enemy, the whole will lie down, the second line deploying if the artillery-fire should

ATTACK OF A BRIGADE.





be too severe. The skirmishers will then direct their special attention on the enemy's guns, and presently it should be attempted to uncover his dispositions by means of a feint attack. As soon as the commander has determined upon his chief point and mode of attack, he will communicate it to the half-battalion commanders, and they to the officers commanding companies, the ultimate point to be reached being distinctly pointed out. On the initiative being taken by the part of the line in the vicinity of the commander, by his order, the remainder will carry out their respective tasks. This will generally consist in advancing in their open formation to within 100 paces of the enemy, the whole at the double with sloped arms, lying down to rest every 40 paces. On reaching the last 100 paces, the officers will rally their respective companies, the two on the flanks of the chief point of attack will close in while doing so, and assist the centre company.

In the mean time the half-battalions in rear of the flanks will probably have closed round them, and will operate on the enemy's flank or rear; the central half-battalions will look to supporting the chief attack. The second line will advance steadily, forming for attack when the first line advances to the attack. Should the latter be unsuccessful, it will be instructed to break off the engagement and retire rapidly in rear of the last portions of the second line, and re-form. Nothing can be simpler than such a distribution, which would cover a front of about 1500 paces, and allow about 5 men to the pace, which is more than

the Prussians had either at Saarbrucken, Le Mans, or St Quentin, and nearly as many as they had at Metz against such fearful odds. This system, though based upon the natural impulses of the men, requires perfect training and much intelligence on the part of the leaders to be able to profit by its advantages and to divest it of its drawbacks. There is no reason, however, why both these provisions should not be fulfilled.

It has been advocated to abolish the formation of square on account of the power of the Infantry against cavalry. new arm, allowing cavalry to be received in line,—and examples from modern war can be adduced in favour of it. After the taking of Podultz, the 12th and 18th Prussian Regiments were charged by the Austrian cavalry, which they repulsed without forming square. After the action of Gitschin, Colonel Berger, having turned the village, attacked the reserve, when he was taken in rear by six squadrons of Edelsheim's Division; the 6th company wheeled up to the right, the half of the 8th company turned about, and the skirmishers formed line, and thus received and repulsed the attack.

Nevertheless it must be remembered that here the troops were flushed with victory, and, in the latter case at least, there was no time to form square. When a stronger formation is possible, I should consider it most injudicious to receive cavalry in line; for though admitting that a steady line, which receives cavalry with a well-directed fire, will probably repulse it, yet

were the line to be broken, the results would be most disastrous.

In the actual use and formation of cavalry there is not much alteration required ; only
Cavalry. rapid movement is to be developed more fully. It is more for the cavalry leaders to be carefully chosen and highly trained ; for more than ever must they strike at the right moment, and a wrong movement will often entail utter destruction. Cavalry should always move with the greatest caution, for it is in itself defenceless, and if falling suddenly under fire must sustain great losses. Besides this, if the ground is not properly examined before its advance, it may contain natural enemies nearly as bad. At Talavera, for instance, the 1st German Hussars and 21st Light Dragoons were ordered to charge the heads of some French infantry columns. When near the top of their speed, they came suddenly on a deep ravine with steep sides. The Germans managed to pull up, but the dragoons plunged down in frightful confusion, men and horses rolling over one another. At Koniggratz, too, the Prussian cavalry brigade, Wichmann, advanced from Sendrasitz with an hussar regiment in one line. This, neglecting to send forward *éclaireurs*, galloped straight upon a deep hollow, hidden by the high corn, into which most were precipitated. Thus it appears indispensable to send forward scouts on every occasion where cavalry are acting in unknown ground.

The actual formation of a cavalry regiment for

attack must frequently vary, and it is as impossible to lay down rules for it as it is for a battalion.

One thing is constant, that it always attacks in line, and outflanks the enemy, being supported on one or both flanks. A regiment advancing to the attack will generally deploy on clearing the infantry line, keeping a squadron in rear of each flank, or two squadrons in rear of one, at attacking distance, so as to be able to support by wheeling outward, and falling on the already shaken flank, or to be able to meet a flank attack. Echelon of squadrons is perhaps more powerful, for the blows strike rapidly one after the other, telling more than the one heavy shock. This formation also allows of a rapid change of front to a flank, and keeps the squadrons better in hand.

The formation of the first line of a brigade of 12
Attack of a bri-
gade. squadrons will be the same, for to de-
ploy the whole would be useless, as such
an extensive front could seldom be required, and its
disadvantages would be immense. The regiment in
the second line will be held in column of squadrons,
overlapping and in rear of one of the flanks, or in
two columns of three squadrons each in rear of both
the flanks, in any case at attacking distance about
100 paces. The commander should not immediately
accompany his brigade, but with his orderly officer
and some well-mounted orderlies should precede it,
and place himself on some commanding position,
from which no movement of the enemy can escape
him. The commanders of regiments, with their men
well in hand, will await his directions. Having pre-

viously warned them of the probable *rôle* they will have to play, it will only remain for the brigade to move rapidly on his order, each regiment acting on its own commander's judgment in carrying out the immediate movement. In this way only can cavalry be usefully employed at the right moment, and there will be the further advantage of knowing its next employment after either success or defeat, for the brigade commander from his post of observation is able to watch coolly and dispassionately during the progress of the one or the other, which is impossible for an officer directly in the fight. The same will hold good with the regimental commander, if acting by himself, the next in command taking the immediate leading of the regiment.

The training of our cavalry cannot be carried to a too high standard, particularly that of
Light cavalry. our light troops, in scouting and outpost duties. One regiment has shown itself particularly efficient in these duties, and there is no reason why the remainder should not at least be brought up to its level. The importance of light troops cannot be too highly rated, and an increase of them in future campaigns would be advisable. The value of them was shown most conspicuously in the Russo-Turkish campaigns of 1828-29. In the former of these the Russians neglected to put any appreciable number of these troops in the field, though they can boast of the best and most numerous of any European nation. The Turks, on the other hand, brought all theirs, which are also admirable, into the field, and mainly

owing to them the campaign was a failure to the Russians. In the following year the latter profited by the lesson, and brought a preponderating force to bear with the most happy results.

In the late campaigns, also, we have seen the Uhlans, acting as light cavalry, employed on every occasion, and, through their excellent training, exciting admiration from all—thus showing that training can effect a high result, if it cannot attempt to vie with indigenous troops, such as the Cossack and Mussulman cavalry.

The sphere of action of cavalry against infantry has been greatly contracted by the introduction of breech-loading arms, and it now is only advisable to use it, as a rule, against bodies in retreat, or which have been greatly shaken. To charge unbroken infantry, except under very rare circumstances, would be to entail heavy losses not at all commensurate with the result. Thus at Woerth the gallant charge of the 8th and 9th French Cuirassiers resulted in their annihilation. At Mars la Tour, also, the Prussian Cavalry Division Rheinbaben attacked the French infantry between Rezonville and Vionville repeatedly without result. On the same day, however, was seen the exception to the rule; the Bismark Cuirassiers and a regiment of dragoons were ordered to break through both infantry and artillery. Before the latter had fired three rounds, they were into the battery; two infantry columns were ridden down also. The loss was terrible, but in this case the ends obtained fully justified it, and it

could be counted as nothing in comparison with the result; for the 10th German Corps was enabled to come up to the help of the 3d, and this probably served to win the battle.

All attacks of cavalry should be made on a flank, and as rapidly as possible, more particularly when charging cavalry or guns. Cavalry against
artillery. The most advantageous time to attack artillery is when limbered up, as they can offer no resistance. Cavalry should be carefully trained how to disable a battery when taken, a thing generally neglected. The result of this was seen at Mars la Tour. By the orders of General L'Admirault, an enemy's battery to which his guns could not reply was charged by the Chasseurs d'Afrique, who carried it. The heavy loss entailed, however, was thrown away, for the Chasseurs could not spike the guns.

To the divisional artillery is intrusted the opening of the attack, and the preparation for an advance of the infantry. Artillery. To commence with, the horse-artillery, accompanied by the cavalry of the corps, advances rapidly by both flanks of the line, which is halted to prepare and form for attack, about 1500 paces from the enemy, and taking up an advantageous position, draws the enemy's fire during the placing of the field-batteries, and prevents the close examination of its columns by the enemy's cavalry. Owing to its extreme mobility, it can act according to circumstances, and may even sometimes be pushed so far forward as to disquiet seriously the enemy's flanks. Besides this, it will serve as a re-

connoitring party, being accompanied by special officers for the purpose of noting the enemy's position and examining the ground. The guns, once posted, should not be moved unless it is absolutely necessary. The reconnoitring party, accompanied by cavalry, can move protected by its fire.

During this period the field-artillery, both divisional and reserve, possibly will have been placed, massed to the front of both flanks, so as to strike obliquely on the enemy's front, crossing its fire. These should be placed under the direction of the divisional artillery commander, but by the immediate orders of the officer commanding the battery, who should be careful to choose favourable ground—viz., a gentle slope falling both ways, and in such a position that its fire will not be masked by the advance of the infantry. The guns will be at once put under cover by hastily throwing up earthworks, which are rapidly made by digging a shallow pit for the guns themselves and throwing up the earth in front. It has been objected that these would soon fill with water in wet weather and the wheels work into the ground; but it must be remembered that this is only a temporary measure, and that during the short period it is for cover it is invaluable. This method of massing the guns and preparing the attack by their fire has been long employed, but has been made especial use of during the late campaigns. At the battle of Woerth 60 guns were massed at Gunstett, and at Sedan as many as 90 crossed their fire on the French position.

The artillery should be under the direct orders of

its commander, who will concert measures for its co-operation with the commander of the corps, thus keeping all the guns working to one aim, without, however, hampering the action of the battery commanders. The importance of this was very clearly shown at the battle of Koniggratz: on the advance of the Prussian reserve artillery, its commander, General Schwartz, collected all the scattered batteries to the west of the heights leading to Cistowes, under the command of Colonel Roth. Through this arrangement the fire was regulated, and a definite aim worked up to. The advantage of this was the more apparent from the want of effect produced by the artillery to the south of Sadowa Woods, which was working independently by batteries. In the last campaign we saw that the Prussians had fully appreciated the value of this lesson. Artillery should always be accompanied by an escort of cavalry or infantry, according to the nature of the ground, except it is posted in the immediate vicinity of troops. The escort should be drawn up 100 or 50 paces respectively in rear of the outward flank.

The fire of the artillery should be directed preparatory to and during the advance against the enemy's guns, so as to draw their fire from the attacking columns, disable their guns, break down their cover, and lay them open to musketry-fire.

The general distribution of a corps composed as before described, before commencing an attack upon an enemy in position, might be in average ground as follows: The advantages

Disposition of a
corps for attack.

and disadvantages of the different features of the ground will be taken into consideration later, together with the modifications in the distribution of forces required to meet them. As the troops march into position, which will be done by brigades—three brigades in front line, one in reserve—a regiment of cavalry from each division, accompanied by a troop of horse-artillery, with mounted rifles in support, will be sent rapidly to the front of the two extreme flanks, and take up such positions as to command the approaches, keeping under cover as far as possible. The cavalry accompanying it will continue to advance and reconnoitre the ground. The escort, after picketing their horses under cover in rear of the guns on the outer flank, will hastily construct a breastwork for the latter, into which they will be moved, and where they will remain during the advance, unless their services are required elsewhere. Protected and covered by these, the field-artillery will be put in position; two batteries of each division, together with one heavy battery from the reserve, will be posted in advance of the respective flanks, in such positions as to cross their fire and reach any part of the enemy's position, without, however, being masked by the advance of their own infantry. Here they will be rapidly intrenched and covered by the engineer companies. The other two divisional batteries will be placed in front of the intervals between the brigades, and will advance with the general line, co-operating according to the discretion of their respective commanders. The three batteries of field-artillery of re-

serve, escorted by two half-battalions, will remain in rear of the centre under cover, in the vicinity of a good road if possible, ready to be brought to the front and massed on the decisive point, when it has been fixed upon. The mitrailleur batteries will be kept in reserve. Two regiments of cavalry will be kept on each flank, and one regiment in the intervals of brigades, all in the second line, ready to operate upon shaken infantry and meet the enemy's cavalry on the flanks. The infantry will be disposed by brigades as laid down at p. 42, with intervals to allow of ingress and egress of guns and cavalry. One brigade will be held in reserve about 1000 paces in rear of the centre of the second line, detaching two half-battalions to escort the reserve artillery. As soon as the various dispositions are completed, a general advance will be made until the skirmishers have arrived as close as appears advisable and as the ground will admit, probably about 400 paces; the whole will then lie down, whilst a continued fire from the batteries and skirmishers is kept up against the enemy's position. The duration of this fire must depend upon circumstances, more especially upon the description of cover that the enemy's position affords, and the consequent effect likely to be produced. After it has been continued a certain time the reserve artillery will be brought to the front, to a position chosen and prepared for it, and will be massed against whatever point may have been chosen for the principal attack, against which the rest of the guns available will be brought to bear. As soon as the fire is judged to have produced sufficient

effect, the final advance will be made, the reserve inclining towards the chief point of attack, the second line filling up intervals as they occur, the outer half-battalions extending the flanks if necessary. As soon as the enemy gives way, the cavalry will fall on the broken battalions whenever opportunity offers, and the artillery will be pushed forward to a flanking position, which must be passed by the retreating columns.

Thus the three arms are employed and combined in the following manner :—

1. At the commencement of the action the cavalry reconnoitres. The artillery then opens the action, being pushed to the front protected by escorts, to cover the development of infantry.

2. On progression of the action the infantry joins in, first in extended, then in close order, supported by the fire of the artillery, and flanked by cavalry. Divisional cavalry looks out for favourable moments. Reinforcements of infantry and artillery may be drawn from the reserve.

3. Decisive push, carried out by all arms.

4. Cavalry with horse-artillery pursues, followed by infantry to drive the enemy from any position he may attempt to hold.

It is only now necessary to say a few words upon the effect which the nature of the ground over which an advance must be made necessarily has upon the formation of attacking troops, and also the manner in which the fixing of the decisive point of attack must be influenced by it.

To commence with the latter part, there are many

considerations which must influence the choice of this point, but of these the principal are, the value which the position will be when attained, and the probabilities of being able to obtain possession of it easily. It stands to reason that the occupation of commanding heights, for instance, in the enemy's position, will be of great value. Still, if by breaking in at a weaker part of the line these heights would be rendered untenable, it would be certainly the wisest course. The carrying of the heights of Spicheren was a splendid performance, which has been justified by success, but it cannot be called a wise one. Lee's three days' fight at Gettysburg was pertinacious; his final advance on the third day was admirable: however, he failed, and is justly condemned for not turning his adversary's left.

The more open the ground is, the more extended must be the order of the attacking force, the more thoroughly must the enemy be controlled by fire before the attack, and the quicker must be the movements of all bodies. However open a country may be, there are always accidents in the ground, which an accustomed eye will detect, and which should on no account be overlooked, as a moment's rest and a temporary shelter from fire, though only partial, is invaluable. The only protection which can be offered to cavalry under the circumstances is to keep them constantly moving, so as to disconcert the enemy's aim. They may also be kept a little to the rear, as they can be brought to the front more rapidly. If the country is well covered, however, and offers good

protection to an advance, the infantry can be kept in close order, until debouching into the open; and the cavalry can be brought closer up to the first line. The whole of the movements being performed under cover, will give to the attacking force a decided advantage. It is seldom, however, that such a change is obtained. Where half of the front is broken and affords cover, and the remainder does not, every advantage will be taken of the protection offered; and the chief attack will probably take place from the former, on account of the facility of massing troops there unperceived, and of harassing the enemy, and especially his guns, by a steady fire from behind cover. If the ground is of a mixed description, no utilising of the cover will be neglected, the various bodies doubling from shelter to shelter so far as is consistent with a steady advance.

(d.) *Mode of Combining and Employing the different Arms for receiving the Attack of an Enemy.*—In the same degree that the task of the assailant has been increased by the development of fire consequent on modern arms, that of the defender has been lightened, if only his dispositions and mode of receiving the attack are framed with a view of deriving the full benefit from the new conditions.

The disadvantages of the defence still, however, remain the same: (1.) Having to fire at a moving object; (2.) Being uncertain as to the enemy's intentions, and having consequently to make dispositions to meet all his movements, most of which will probably be feints.

The first of these can be lessened by care being taken, before the approach of the enemy, to measure all the principal objects along the front, and so be able to tell the exact range from time to time. This should on no account be neglected.

The only way of meeting the second is by keeping a strong reserve, and creating a free and rapid system of communication in rear between every part of the line.

The other chief points to be regarded in taking up a defensive position are :—

1. That the front and flanks cannot be approached by an enemy unawares, and that a free range should be afforded.

2. That the ground is suited to the arms in which the defender preponderates.

3. That it affords cover for all portions of the force.

4. That it allows of free egress towards the enemy.

The securing of the line of retreat comes within the sphere of strategy, with which we have nothing to do.

Should the flanks be supported advantageously by some natural object, so as to leave them free, so much the better ; if not, they will be protected by obtaining a flanking fire from the batteries of the reserve.

Experience has shown most fully and particularly during modern campaigns that not only is the pure defensive disadvantageous, but that with it it is impossible to gain an advantage. The simple fact of a

force passively holding its own in a chosen position, without further action, argues it beaten, and can be productive of no good results. A good general, however, will never place his troops in such a demoralising position, but will make every disposition, not only with a view to holding his ground, but rather that he may retain the enemy under his fire for as long a time as possible, and eventually, when shaken by heavy losses, charge him impetuously with fresh and confident troops. If skilfully planned and actively carried out, such an attack cannot fail to carry confusion into the enemy's ranks, and, if well supported, will generally insure the victory.

The great art of disposing troops on the defensive consists in justly estimating the features of the ground, and placing the various arms so as to take the fullest advantage of them, and also in employing only such a number of men in the front line as is absolutely necessary. Often, for instance, there are fronts of a line quite inaccessible except by certain paths; it is sufficient, then, to provide for the protection of these. On the other hand, it may be unavoidable that a part of the line is approached by cover; here, then, must be a sufficient body to meet an attack in force.

The great principle to be observed, then, is to occupy the front line with as few men as the nature of the ground will allow, and to employ it entirely with meeting the enemy with its fire. The second line should be brought into close proximity with the first, but intact under cover, awaiting the decisive

moment when the advancing enemy is to be met by their shock. The reserve will be posted further to the rear, in direct communication with each part of the front. The cavalry which is unemployed will be posted on its flank, more retired if necessary.

It was thus the Prussians acted at Saarbrücken, and on all occasions when thrown on the defensive. Perhaps the action of Nachod exemplifies more fully than any other the power to be derived from such a slight formation if the dispositions are good. In this case the main body of the 5th corps, which stood in place of the reserve, could only be debouched slowly from the defile, thus being at a great disadvantage to a force occupying a well-chosen and carefully-prepared position.

The disposition of a brigade for defence will be very similar to that for attack, six half-battalions being in the first line, and six in the second. The whole of the skirmishers in the first line will be sent to the front, and will establish themselves in an advantageous line about 150 paces from the position. Here they will create cover by helping the natural undulations of the ground, so as to be completely hidden from the enemy, and still have a clear aim towards him. This is best effected by a small trench in which he can lie, with the earth thrown to the front over a few sticks or stones, and trodden down. A small hole is then cut for the rifle, and the whole covered with green grass, sand, or whatever is at hand, and will assimilate the appearance to that of the neighbouring ground. The front will consist of as many of the companies of the

first line as the ground demands, posted in accordance with it, here in opened-out line, there in line, or even closer formation sometimes. These will be supported by the remainder of the half-battalions to which they respectively belong, which will be placed under cover slightly retired, and ready to fill up intervals, reinforce threatened points, and minister generally to the maintenance of the front line. The second line, formed in half-battalions, or in more open order, if absolutely necessary on account of the fire, will be placed about 200 paces in rear of these, lying down under such cover as is available. This line will be kept as much as possible intact, so as to be ready to take the offensive with undiminished power when the right moment arrives; where there are roads cutting the front perpendicularly, one half-battalion should be placed on each side, ready to operate on them rapidly.

In disposing a corps for defence, three of the brigades will be distributed in the two front lines in the manner described above, while the fourth and the cavalry will be held in reserve. The divisional artillery will be distributed according to the configuration of the ground, so as to afford a flanking fire upon all points. The best way of dividing the guns equally along the line, so as to give the maximum of effect, is to treat the ground as if it were the face of a fortified position. Thus the tracing of it will be divided roughly between the salients, which will represent the bastions, and the connecting ground, which will be the curtains. In this manner it can be seen, by means of the very roughest plan, what the general

distribution of the guns must be, and the batteries, which must if possible be kept intact, will be marched into their respective positions. The battery commanders will be left to choose the actual ground upon which their guns are to be established, and here they will be intrenched by the engineers without loss of time. The reserve artillery will be posted on the flanks for their protection, a heavy battery on each flank protected by the flanking fire of a field-battery somewhat more retired. These will be thoroughly intrenched and duly supported by escorts. Should the flanks rest on some support, such as a detached wood or other object, which leaves it free, this will be strengthened by posting the guns as is best suited to its configuration. If a wood, for instance, the outer trees will be lopped and formed into abattis, placed so as to form salients. Where the ground does not offer positions for batteries, the infantry will be distributed according to the strength of the position, and where no cover exists will be protected by shelter-trenches. The mitrailleuse batteries will be placed in the most favourable positions for the good effect of their fire, and where the enemy is likely to attack in force. Besides the emplacements thrown up for them in the front line, which should be of the most complete description, so as to afford perfect protection, reserve ones must be thrown up a few hundred paces retired, so that the mitrailleurs may be able to fall back if closely pressed, obtaining thereby an increased effect from their fire, and providing for their eventual retreat if necessary. While these arrangements are being

carried out, the whole of the front will be cleared, if possible, to a space of 2000 yards, belts of trees, &c., near the front being felled and entangled, so as to form obstacles, and retain the enemy as long as possible under fire. The distance of all marked objects will be taken and noted by the battery commanders, and marks placed at various distances, so as to be able to direct a true fire on the enemy's advancing columns. During this period two regiments of cavalry, accompanied by horse-artillery, will advance by the flanks and drive off any reconnoitring parties they may encounter, retiring only when forced to do so by the enemy's fire.

As soon as the enemy is well within range, the batteries will open fire, the skirmishers joining in it when he has approached sufficiently near, but on no account throwing away their fire uselessly at long ranges. If this fire does not check him, the enemy will be received by volleys from the front line, commencing at about 250 paces. Should the position be on a ridge, the second line should now advance up to the first, and, when the enemy is within 100 paces, charge. If, however, posted on a plateau, it will be better to allow the enemy to gain the border of it before charging.

Few troops will be able to resist such a combination if energetically undertaken. If the enemy is repulsed, he should not be followed, for the charging force, mingling with that repulsed, falls into confusion, and also, owing to the mixing of the two, the artillery is unable to perform its office. It will be much better

for it to halt before order is lost, and in unmasking the guns, pour in its own fire as well. The cavalry, falling on the flanks of the retreating columns, will complete their confusion, and the horse-artillery, pressing forward from position to position, will continue to carry disorder into their ranks.

Such an offensive return can seldom take place with advantage along the whole line, but should generally be aimed at one of the flanks. As the attack is made, as a rule, from one flank, this return can be against the attacking or refused flank. Of these the former is the safest, though not nearly so decisive as the latter would be.

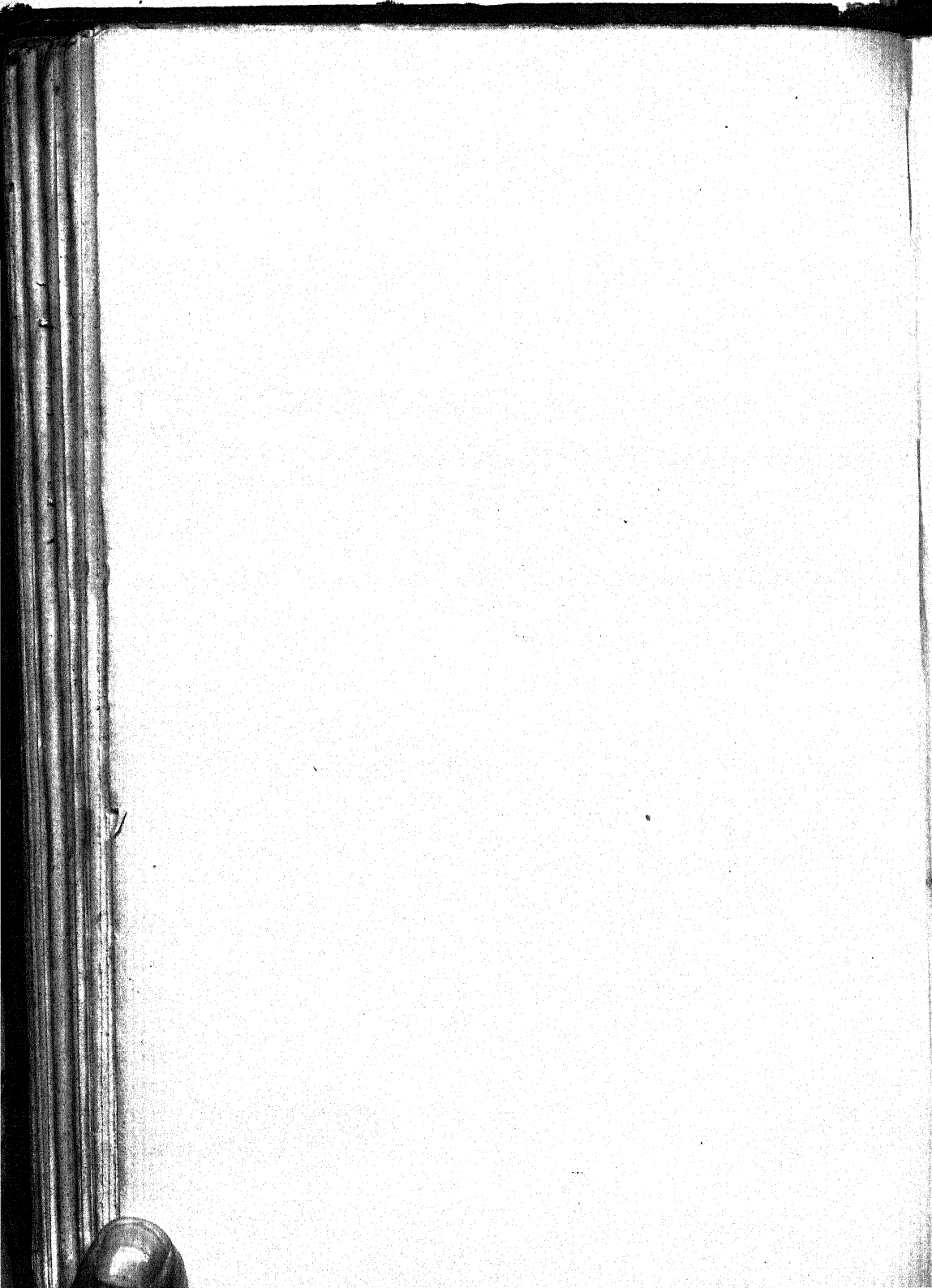
ESSAY II.

“AGINCOURT.”

BY

LIEUTENANT STANIER WALLER,

ROYAL ENGINEERS.



ESSAY II.

BEFORE proceeding to discuss the heads of the essay,
Introduction. it will be as well to examine briefly what would be the probable composition and numbers of a British army operating on the Continent; and we advisedly suppose the operations to be conducted abroad, as we should then be in our normal condition of fighting against superior numbers, which would not necessarily be the case were we fighting in defence of our own shores.

Our army, then, would probably consist of about
Probable composition of an English army on the Continent. 60,000 men — infantry, artillery, and cavalry, all good of their kind, and unsurpassed for fighting qualities.

The operations of such an army should be sharp, decisive, and hard-hitting.

We should not stint ourselves in the matter of
Generous allowance of artillery necessary. artillery. The conventional 3 guns per 1000 may well be exceeded by a nation powerful in the *materiel* of its artillery, and deficient in the numbers of its infantry.

A generous allowance of heavy guns of position will, by their powerful aid at a critical moment, well repay all the difficulties of their transport. Witness the two 18-pounders at Inkerman.

We take our army, then, at 60,000 men, which Probable division of the army. would, according to our usual custom, be probably divided into a light and four other divisions of infantry (the light division to have cavalry attached), a division of cavalry, and a powerful reserve artillery, including guns of position.

Each division to consist of some 9 battalions of infantry, with 4 batteries of artillery and 1 of mitrailleurs, which would give the divisional general a spare battery or two to his hand.

The light division to consist of some 6 battalions, 3 regiments of cavalry, 2 field-batteries, 1 battery Royal Horse-Artillery, and 1 of mitrailleurs. The reserve artillery, about 12 batteries—viz., 5 field, 3 horse, and 4 guns of position and 2 of mitrailleurs. The cavalry division should consist of 4 heavy and 4 light regiments. This would give a total of 42 battalions, 11 regiments of cavalry, and 38 batteries, including mitrailleurs; or, approximately—

Infantry,	.	.	.	.	.	40,000
Cavalry,	.	.	.	.	.	7,000
Gunners,	.	.	.	.	.	6,500
Other services,	.	.	.	.	.	6,500
Total, . . .						<hr/> 60,000

We now proceed to

HEAD (a).

Mode of Forming the Columns of March when a Collision with the Enemy may be expected.

An army marching to fight must be in fighting trim : its baggage well in rear ; knapsacks, if possible, left behind ; plenty of ammunition in the men's pouches ; and spare ammunition-carts, the only vehicles accompanying the infantry. Ambulances should not follow each regiment or brigade, as in the recent autumn manœuvres, but should follow in rear of their divisions, and be parked under cover as soon as the fighting begins.

1st, In case of the expected enemy being in front.

March to a
front.

The manner of advance would of necessity be, as ordinarily laid down, in columns of divisions or corps on parallel routes ; and for an army of 60,000 men, three routes would probably suffice. And as the front of such an army in line of battle would not much exceed three miles, it follows that these routes should not be more than from a mile to a mile and a half apart.

Sir Garnet Wolesley, in his Handbook, suggests that, for tradition's sake, an English army should always have a light division, and that this division should always form the advance-guard, and, in fact, be invariably in the post of honour between the army and the enemy.

Place of the light
division.

In general circumstances, there could be no objec-

tion to this arrangement; but in the case of an army actually marching to fight, and consequently marching in embryo order of battle, it appears doubtful whether the advance of each column would not better be formed of its own troops. We have supposed the light division to consist of 6 regiments of infantry, which, if scattered over the distance of three miles and more occupied by the supposed three routes, would be somewhat out of hand as a division for manœuvring purposes.

Let the light division, then, by all means head one of the columns, but not all three. Its cavalry (3 regiments) could do all the cavalry work for each advance, one regiment to each route, though so great a force would not probably be required.

The advance of each column would probably consist of 2 regiments (no knapsacks), a battery, and 2 squadrons of cavalry.

Composition of
the advance-
guard of each
column.

A staff officer and his scouts should precede everything, be followed by a small body of cavalry, after which should come the infantry, with, say, two of their guns well to the front, and the remainder of the battery in rear. Cavalry scouts and small parties of infantry should be all over the country, in front and on the flanks, diving into woods and farms, crowning hills, and keeping up communication between the columns. The infantry would of course throw out its own advance-guard, which should be accompanied by sappers with their tools on pack-horses.

The distance of the advance from the main column

will depend upon circumstances. With the head of a column at Frimley, the advance-guard should have felt for the enemy in Bagshot.

The main columns of each division should march, infantry in front, with a battery in the intervals of the 1st brigade, followed by the main body of their artillery, cavalry in rear.

It is laid down that troops should always march on as large a front as possible, and it seems a pity that marching in "sections" is not more commonly used in our army in preference to "fours."

It is impossible to prevent a long column of infantry marching in fours from opening out; the responsibility of keeping distance rests with too many people. This is not so in sections. The men march along much more cheerily. Each section forms a little family of itself, sings its own song, and has an officer or non-commissioned officer on its flank to look to its distance and keep it in hand. Again, when it is necessary suddenly to detach a small party of men on the march, what more handy than a section with its commander. A regiment marching in fours drags itself along wearily, and has no joints excepting between the companies. Give a sudden order to a subdivision or section to detach itself, and it will, nine times out of ten, take a good bit of scrambling and consequent checking before it can make up its mind where it begins and where it ends.

Again, give a sudden order to a regiment on the march in fours to halt and front, and the closing up,

squeezing, and counter-squeezing which go on for some two minutes, render it impossible for a man to be certain of his legs, much less to use his rifle, until the battalion has settled itself to its satisfaction.

In sections this would not be the case; and there would, if the keeping of distance by non-commissioned officers of sections—and it is not difficult to keep distance for a front of some eight or ten men—were as rigidly enforced as it should be, be neither opening out nor crowding when a sudden order to wheel into line was received.

The responsibility of distance in a regiment 800 strong, of 8 companies, would rest with 32 men instead of 200, and liability to error be much reduced in consequence. I do not advocate the abolition of fours—they must be kept for ordinary manœuvring and narrow roads; though I am not sure that for route-marching on the latter, half-sections might not with advantage be adopted.

Again, a matter which appears to require attention is the management of the ammunition-carts. We did not shine in this particular during the autumn manœuvres. At one time a regiment might be seen advancing into the hottest of fires with its ammunition-cart peaceably jogging along a yard or so in rear; at another time a regiment would be crying out for ammunition, and a general stampede of mounted officers would proceed in search of the missing cart. It appeared to be the general practice to intrust it to a corporal's escort. The corporal and his men fixed their bayonets, and

Ammunition-carts.

were prepared to defend their cart to the last gasp, but at that point their ideas ceased. An officer, mounted if possible, should beyond all doubt be in charge of the cart, and should keep it as much as possible under cover. He should be provided with field-glasses, and, carefully watching the doings of his regiment, will be able to tell pretty well when ammunition is likely to be wanted: better too soon than too late. A party of fatigue-men, with a goodly supply of empty haversacks, should accompany the cart to carry ammunition to the regiment. Perhaps bandsmen might with advantage be used for this purpose; their white coats would mark out the position where the cart was halted. A yoke-strap and drag-ropes should form part of the equipment of the cart, to enable men to drag it, in case the horses come to grief.

On the march each cart should of course follow its regiment, and as soon as they begin to form in line of battle, seek its proper post in rear.

To return to the columns on the march.

The line of battle for our 5 divisions would in all probability be 3 divisions to form the first and second lines, which would give a front of about three miles, with the remainder in reserve. We may therefore imagine the light, 1st, and 2d divisions forming the advances of the three columns; the 3d, 4th, and reserves following in such order as may be deemed best, according as infantry, cavalry, or artillery are likely to be wanted in particular places. Thus, if there was rough ground

March of the
columns.

to the right front, and open plain to the left, the cavalry would march by the left route, and infantry by the centre and right. If the country was fairly open all round, cavalry might be on both flank routes; and, with high ground in front, cavalry and reserve artillery would probably find their place in the centre, with infantry on both flanks.

The leading divisions, which form the actual line of battle, should be so disposed that they may have one of their brigades in the front line supported by their other brigade in the second. This is probably a better arrangement than putting the whole of one division in the front line supported by another in the second. Divided commands reign between the front line and its supports, and a demand for succour from the rear takes the form of a prayer instead of an order.

We sent whole divisions in our front line to carry the Alma, supported by whole divisions in the second. The first division was a trifle late in supporting the light division, and it had to fall back, and suffered severely in consequence. Had attacking line and supports been under one leader, he probably would not have let loose his attack until his supports were ready to hand.

The columns should march right, left, or centre in front, according to the general divergence of their several routes. Thus, if the left route was very wide of the centre, the left column would march left in front, as it would have to deploy to its right to feel the centre column. If, on the contrary, the left route

were very close to the right, the left column would march right in front, as it would have to deploy to its left.

It may be said that this is a needless precaution, as
Advantage of adhering to customary order. brigades and divisions can deploy either way as required. True enough; but there is considerable advantage in keeping men and regiments in their accustomed order. There is less fluster; the staff know where the colonels are, and the colonels know where their regiments ought to be. To reverse any customary disposition on the eve of an engagement is simply to court a complication.

As soon as the advance-guard report the enemy in
Preparations for action. sight, the columns must begin to arrange themselves in order of battle. The infantry should instantly quit the roads, and leave them for the artillery. The front brigades should get into columns, at deploying distance, with their batteries handy.

No place can be specified for the divisional batteries.
Duties of artillery. Should an advance still be intended, they would probably remain in column of route, or trot on to some vantage-ground to assist the advance-guard, which would by this time be engaged; or, should it be intended to wait attack, they would get into the best position possible for covering the front. Strict rules cannot and should not be laid down for artillery; their action and usefulness are entirely influenced by the conformation of the ground. They must take care of, but not be hampered by, the infantry to which they belong; clear the way for

their advance; clinch their victory, or cover their retreat.

We have supposed the perhaps somewhat excessive allowance of 4 batteries of field-guns and 1 of mitrailleurs per division. Of these 1 battery is with the advance, 2 would come into action with the brigade of the first line, leaving 1 battery and 1 do. of mitrailleurs with the supporting brigade. The possession of this large force of artillery would much strengthen the hands of a divisional commander; he could relieve or reinforce his own batteries as necessary, and could, at a critical moment, when a *feu d'enfer* became necessary, cover nearly the whole front of his position with artillery.

2d, When an enemy is expected on the flank.

Collision expected on the flank. An army on the march *expecting* collision with an enemy on its flank, is, according to the axioms of war, executing a very hazardous movement. In fact, it would seldom happen that an army would attempt such a movement. A smaller body of men, a division or corps, detached to turn an enemy's flank, would of necessity be in precisely this position. To offer suggestions or lay down rules for the march in such a case is very difficult, so entirely will the dispositions be governed by circumstances. One thing, no doubt, will be necessary—viz., a good flank-guard or advance-guard, call it what you will, between the main columns and the enemy; and the body of men forming this guard will have to examine and guard all approaches on its exposed flank, and yet not lag behind the main

column. It is a duty which requires good men, well led, who can act in small parties on their own responsibility.

As regards the march of the main columns, infantry with its artillery would be nearest the exposed flank, and it would appear well for each brigade to march if possible in a double column, centre in front—a formation which readily lends itself to a deployment to front or flank, or both simultaneously. The first-line brigades of a division would march nearest to the enemy, with their second-line brigade on the unexposed flank.

An army marching thus to a flank will generally occupy more routes than if marching to its front; and in an enclosed country many of the columns would have perforce to march across country. There should therefore be always plenty of sappers and pioneers to pilot the head of each column.

HEAD (b).

Mode of Covering an Army on the March or in Position, in order to conceal its Movements and to obtain Information of those of the Enemy.

The duty of covering an army on the march generally devolves on cavalry; of an army in position, on a combination of cavalry and infantry in the form of outposts. It is the business of the same men who are employed to cover the movements of an army to obtain intelligence of those of the enemy.

An army in an enemy's country should be like a fan—the army at the centre, outposts, reconnoitring

parties, and patrols on every road on the circumference.

The Prussian outpost system during the last war is universally acknowledged to have been very perfect. They had the advantage of a numerous and highly-trained cavalry, and they used them to perfection.

Our cavalry is not numerous ; neither is it, as a rule, in this particular part of its duty, very highly trained. We never have, in any of our wars, been particularly celebrated for our performance of cavalry outpost duty ; and why ?

The Prussian cavalry was not only numerous, but, owing to the national composition of the army, contained many educated men in its ranks. Maps were part of their equipment, and they could read them intelligently.

Our troopers are not, as a rule, highly-educated men when they join their regiments, and the education which they afterwards receive in this, perhaps the most important part of their duty, is, on an average, very deficient ; in some regiments pretty good, in others almost absolutely *nil*.

We do not expect every trooper to be an accomplished surveyor or draughtsman ; but it is a question whether an instructor in outpost duty, with a lecture-room and a few simple maps and plans, would not be a more useful functionary in a cavalry regiment than a musketry instructor.

Practising outpost duties in many of our cavalry regiments is done purely and simply as a sort of

"by the way" field-day some two or three times a-year, and hardly forms a recognised part of their regular routine of drill.

To people who are provided with and can read maps, it is difficult to understand the wrong-headed impression of a bit of country which may be taken by a man who has neither a map nor the power to read one.

Any one who, wandering alone in a strange bit of country without paying particular attention to his whereabouts, suddenly discovers that he has lost himself, and has only a vague idea of the direction in which he was going last, will understand the possible feelings of a trooper placed in a certain spot, and told to keep a sharp look-out to his front. If stories which were rife at the time of the autumn manoeuvres be true, he will occasionally be found keeping an excellent look-out with his back to the enemy.

Let, then, as many as possible of our troopers be taught to read a map, and be exercised in the use of it.

For the very reason that our cavalry are few in numbers must they be extra expert and efficient in this particular part of their duties. They will have to watch large tracts of country with their thin number, be distributed and split up into small parties, separated by considerable distances, and possibly only able to communicate with each other by signalling, for they will scarcely be sufficiently numerous to indulge in the extensive system of supports and

connecting-links which was so characteristic of the
Signallers. Prussian network of advanced horsemen.
Signallers, then, will possibly be required
to fill up the gaps.

A large number of officers and men of all branches go annually through a course of instruction in army signalling at Chatham; they are very perfect when they leave, but soon get rusty for want of practice. A scratch pack of such signallers, collected at short notice on one occasion during the autumn manoeuvres, turned out anything but a success. A rusty signaller is worse than none at all; he only tends to confusion and loss of temper.

We have also a small permanent body of signallers attached to our field-telegraph, which may be advisable as an instructional arrangement in time of peace, but would scarcely hold in war, when the telegraph would be in rear, and the signallers almost invariably in front; neither are these signallers as highly-trained men as they should be. As at present constituted, they would be unable to take the position which they should do as part of the Intelligence Department of the army.

There are at Chatham surveying schools where many non-commissioned officers and men are taught to sketch country. A man who has learnt to sketch country—to draw maps, in fact, however roughly—will always be able to read a map more intelligently than one who has not. Let these schools, then, provide us with a body of men who can sketch, let these men be taught to ride, and let both qualifications be rigidly

insisted upon. Form these men into a corps, call them "intelligence corps, signallers, guides," what you will, but let them be working bees and no *corps d'élite*. Officer them with Engineers and Staff-College men. Let them be organised to work in small squads, permanently told off, each under its own non-commissioned officer, and let these men be the signallers of the army. Let parties of them be permanently attached in war time to all the regiments on which outpost duty devolves, and let parties of them be attached to headquarter and divisional staffs, so that any staff officer when reconnoitring may, if he require it, have a squad of them at his heels.

It is by some such arrangement as this that we must supplement the numbers of our cavalry for outpost duty and reconnoitring purposes.

The doings of an army in motion or in position are best concealed—in the former case by the rapidity of its movements, in both cases by the skill, and more especially the extent, of its outposts, and by the unceasing vigilance of the provost-marshal and his myrmidons.

As to the detail of outposts, about which a good deal has been written lately, and various schemes advocated, it seems unprofitable to enter closely into details of numbers and disposition; they will vary each day and each night, according as the country is close or open, and the nights dark or light. But there are certain broad and well-defined principles on which all systems of outposts must be based, and which are so well known as

System of outposts.

scarcely to bear recapitulation. Next to the enemy must be a chain of sentries, and these sentries must have supports (pickets) to fall back upon, and these pickets be in their turn supported by larger bodies (grand guards). It is the duty of the whole to see and not be seen—to guard against a surprise—and, in case of attack, to fight long enough to enable the army to get under arms. They will be provided with artillery, say a field-battery and one of mitrailleurs,—the latter with the grand guards, to be used in case the advance of the enemy is serious; the field-guns with the advanced pickets—as a shell from a field-gun is a much better hint to an enemy to clear out of a wood or farm than a splutter of musketry from a mitrailleur.

The suggestion that on one division (the light) should fall the whole outpost duty of the army is in some ways very advantageous. The officers would get skilful at posting their men, and making the best of the defensive qualities of their posts. The men would get to know their work well, and the sentries would not disturb the night's rest of the army by taking fright at their own patrols. The army, in fact, would feel secure, and not be harassed by constant alarms; and the appearance of the same uniforms at the outposts would keep the enemy in the dark as to the whereabouts of particular divisions. On the other hand, the wear and tear of outpost duty is very great, and the men must be well cared for in other respects, especially in the matter of regularity of rations, or

Light division
to take the
outposts.

they will scarcely thrive on their monopoly of the outposts.

The further outposts can be pushed to the front with safety the better they will screen the operations of the army, and the better scope they will have for shifting their positions, and thus occasioning false rumours as to the army's doings.

As regards gaining information of the enemy's movements, it must be obtained not only by the patrolling and exertions of light troops, but by a regularly-organised Intelligence Department, of which the Topographical Department of the War Office is at present the only visible sign. It is the duty of this Department to see that the army is well provided with maps and plans, and the generals with statistics; but the actual organisation of an Intelligence Department, to organise and examine spies, to examine deserters, and screw information out of unwilling peasants, does not appear, and perhaps rightly so, to have a permanent existence in our army. It is a department which requires special natural qualifications in its members—they must be linguists, and have immense tact. There must be men in the army or the country well qualified for such positions, and they are doubtless well known to the authorities. It is a department which appears to spring into existence simultaneously with a declaration of war, and is as necessary to an army in the field as a compass is to a ship.

HEAD (c).

Mode of Forming, Combining, and Employing the different Arms for the Attack of an Enemy in Position.

It is in the two latter heads of the essay that the differences in modern warfare produced by improved weapons will have principally to be noticed.

In the two heads already noticed, little else could be done than enunciate well-known axioms of war.

Columns of march and outpost duties must be conducted on much the same principles whether rifles fire once or fifty times a minute, or kill at one mile or three; they are only slightly modified by the change, whereas the tactics of the attack and the defence are in some particulars revolutionised.

The principal brunt of an engagement falls nowadays upon artillery and infantry. The order of proceedings is first to pound with artillery, then to attack with infantry, and, if successful, pursue with cavalry.

Briefly to review the capabilities of our fighting arms.

It is generally asserted that cavalry will be no longer used during the heat of an action—that their duty will be confined to outpost duty and pursuing a beaten enemy.

The last war scarcely bears out this assertion.

Cavalry. Cavalry, whether rightly or not, did get mixed up with battles a good deal. The

Prussians are stated to have occasionally sacrificed a

regiment to gain a specific object. The French tried many despairing charges, and reaped, it is true, little else than glory; but still it is probable that there will be certain phases in future battles, to be noticed more particularly presently, when cavalry may be used with considerable effect.

It was the fashion during the autumn manoeuvres to abuse our cavalry, especially the heavy. Those who did so forgot how severely handicapped they were; for it must be borne in mind that when armies begin to fight by mutual consent at eight o'clock in the morning, come to a dead-lock at noon, and then march peaceably to camp, their cavalry are somewhat limited in their legitimate sphere of action. The battle-fields were restricted—cavalry could hardly help getting massed under fire; there was no pursuit, and baggage was sacred.

For fighting purposes we may well leave our cavalry as they are—strong men on strong horses. If well led, they will scarcely find their match in any Continental army.

Our artillery was universally praised in the autumn, and they deserved it. Relieved by a
Artillery. welcome order from the restriction which had hitherto hampered their action with infantry, they were allowed considerable latitude of action, and showed themselves well able to take advantage of it. Give them good guns, and our batteries are not likely to fail us; but, above all things, let us have plenty of them.

And as regards infantry.

We are not generally looked upon as a very original nation in matters appertaining to war ;
 Infantry. but in one matter, and that a very important one, we have in former days struck out a line of our own, and to it do we owe many a hard-earned success. It is the national line formation of our infantry.

There can be no more destructive engine of warfare than a line of infantry firing steadily,
 Advantages of line formation. rapidly, and well ; opposing troops wither away before it : and its effect is moral as well as physical—for troops opposed to and suffering under the fire of a battery of artillery know that if they could only reach the guns they could render them harmless ; but they are not so sure of producing the same effect upon a line of infantry, which has the great moral attribute of being alive, which the guns have not.

All troops cannot fight in line, but Englishmen can ; and fighting in line have they won a goodly roll of European victories, besides some half-hundred Indian battles against the most fearful odds that ever men fought.

Since our last Continental war, and since, with an almost sublime confidence in our national formation, we carried the Alma with two bare lines of infantry, it has been the fashion to raise an outcry against our infantry tactics. We have been told that they are old-fashioned, and that if we go to war on the Continent we must do as the Continent does (or did), and attack in all sorts of different combinations of columns ; whereas, we maintain, that so hateful is a column

formation to the British soldier, so thoroughly unhappy is he under fire until he can get into line and look about him, that the man who takes British infantry in column to the attack of a position will use and lose some four times as many men as are needful for his purpose.

The argument appears to be, that because fire-arms are more accurate, far-reaching, and destructive than formerly, therefore must troops be piled into a formation which renders their own rifles useless, and makes them an excellent living target for those of the enemy.

The Prussians did a great deal of attacking during the recent war, and to what conclusion did they come?

Prussian method
of attack.

In a pamphlet recently published by authority—a translation by Captain Robinson, R.B., from the German of the Duke of Würtemberg—the following words appear twice printed in italics:—

“The attack in line of columns on open ground was marked out as an impossibility and a useless loss of men, and definitely rejected.”

Having then given up their attack in column, what did they substitute for it? We quote some more italics:—

“The attack in open order (widely-extended skirmishing lines), joined to the attack of skirmishers, was from that time adopted, and it was strictly forbidden to lead bodies of troops in close order within a nearer distance of the enemy’s fire than 2000 paces.”

That is to say, they were taught by experience

to attack with clouds of skirmishers supported by lines.

It would appear, then, that we only want slightly to modify our accustomed formation to assimilate it to that which experience has taught the Prussians is the best for modern warfare.

To go somewhat more into detail ; and, first, as regards the skirmishers of the attack.

The *rôle* of these skirmishers has increased considerably in importance. Formerly, they were Modern skirmishing. simply a thin curtain, drawn in front of the attack, with the duty of annoying and distracting the enemy until the attack had reached a certain point, when their utility ceased. Now, on the contrary, they are part and parcel of the attack itself ; and what we should formerly have considered the "attack proper" becomes a support, whose duty it is to reinforce its skirmishers and hold the ground already gained by them.

The attack, in fact, resolves itself into an advance firing, ending in a concentration of such a fire upon the point to be gained as will cause the enemy to quit it. The bullet gains the position, and not the bayonet.

Skirmishers will therefore be much more numerous than formerly, and instead of only part of a battalion skirmishing, with the remainder neatly distributed into supports and reserves (good targets for the enemy's fire), it will probably be found necessary to have whole battalions, and even brigades, extended in skirmishing order. To facilitate this our skirmishing drill must be modified ; and to prevent men spread over such a large

extent of ground from getting utterly beyond the control of their officers, it will be necessary not only to accustom men to pass the word of command, but to make the passing and repetition of it an actual matter of drill.

In most, if not all, of the mounted branches of our service, the word of command is instantly repeated by officers and non-commissioned officers, and a similar principle might well be applied to our skirmishing drill.

The skirmishers who head an attack must be taught continually to advance, to seize every opportunity, to collect in small bodies where cover is available, and to work with a rush from one vantage-ground to another. They should have clearly pointed out to them the point to which their energies are to be directed, and should, above all, be accustomed to work to a flank, and be perfected in that crab-like method of advance which almost imperceptibly converts a front into a flank attack.

The Prussians appear to have taught their skirmishers to work on this principle, continually reinforcing the flanks of the line with fresh troops.

There is one danger to which skirmishers of the attack will always be liable, and that is a sudden charge of cavalry. When skirmishers are few and far between it is scarcely worth the while of cavalry to molest them; but a swarm of skirmishers offers such a tempting feast, that we may expect cavalry to be more frequently used against them than heretofore.

Skirmishers
charged by
cavalry.

Our present drill provides fairly for this emergency:

the change from single rank to files, from files to fours, and from fours to squares, according as danger thickens, should become a second nature to our infantry skirmishers. Cavalry will ride through them, only to melt away before the fire of the supporting lines.

The French, from the account of an eyewitness, appear to have twice used their cavalry in this way on a particular part of the field of Sedan. The first time they caught the Prussians napping, and did some damage; the second time they were wiped out by the fire of the supports.

To offer facilities for working across rough ground, and as a protection against fire, the Supporting lines. best formation for our supporting lines would probably be in line, slightly extended, not to full skirmishing interval, but to such distance as, while giving increased freedom of movement and immunity from fire, will still retain to a great extent the cohesion of the line formation. Perhaps two or three paces between the files might suffice.

A regiment in this formation will be ready in an instant to reinforce or relieve skirmishers; it can resist cavalry by rapidly closing its companies into squares, and is not so much out of hand but that it could close in and make a rush for a position.

We have supposed our division to consist of 9 battalions, and for attacking purposes the front brigade had better be of 5, the supporting brigade of 4 battalions. If the division is to attack, the front brigade will throw out two of its battalions as skir-

mishers, and support with the other three in extended lines. One, perhaps all, of these battalions may be wanted to reinforce the skirmishers, or extend their line; and as they are thrown forward their place should be supplied from the battalions of the rear brigade, with which should be the divisional general, who should deal out support to the front of his attack with no sparing hand. The arrival of reinforcements from the rear almost always prompts men to gain ground, and their rapid and frequent arrival may lead to the happiest results. Had a stream of supports aided our attacks on the Redan, our men would not probably have hung fire, and eventually lost a position the verge of which they had already gallantly gained.

A certain amount of rapidity of action is necessary in attack. Our infantry are apt to be slow. During the autumn manœuvres the slowness and hesitation of some regiments manœuvring under fire was almost painful to witness; but we think the blame scarcely rests with the men or the drill. Any one who has been long at Aldershot will notice how much quicker some brigades habitually manœuvre than others—a pretty fair proof that the fault does not so much rest with the drill as with its application.

The artillery of an attack, it is almost needless to say, should fire, as long as firing is possible, over the heads of its own infantry. A few guns even may in certain cases be pushed forward with the skirmishers; the remainder, limbered

Rapidity of action of infantry.

Artillery of an attack.

up and kept in hand by the divisional general, with his supporting brigade, must be ready to assure the victory or cover a possible defeat.

HEAD (d).

Mode of Combining and Employing the different Arms for receiving the Attack of an Enemy.

Englishmen have a great aptitude for fighting defensive battles. It is a rôle which falls in well with the somewhat stubborn character of the infantry, and develops to the full the advantages of their favourite line formation; for we hold that the warmest friend of columns will scarcely advocate their employment for defensive purposes. The Russian defence of the Alma. Alma is a pure instance of their misapplication to such a purpose.

Positions must not be defended passively; for as in a siege that garrison makes the best defence which continually annoys the enemy by bold and well-directed sorties, so an army defending a position must be ready to deal out counter-attacks with a liberal hand, and even be ready, when the fitting time arrives, to change its whole action of defence for one of attack.

An army in position has two things to look to: the defence of its front, which is pretty easy; and the defence of its flanks, which is very difficult. We will consider the former first.

Defence of the front of a position.

Artillery has the early stages of a defensive fight almost entirely to itself; and a sufficiency of it in a good position will render a front attack an almost hopeless undertaking.

Necessity for
powerful artill-
ery.

Chanzy had a powerful artillery at Le Mans, and the Prussians for a whole day could make no impression on his front. At Sadowa, again, artillery asserted its power against a front attack. To quote from Captain Hozier's 'Seven Weeks' War: '—

“At this time the Austrian artillery were making splendid practice; the whole battle-line of the Prussians could gain no more ground, and was obliged to fight hard to retain the position it had won.”

Guns, then, can scarcely be planted too thickly in a defensive position, and a divisional general would probably find scope for the employment of the whole of the 5 batteries (1 of mitrailleurs) with which we have supposed him to be provided in the defence of the ground intrusted to his charge.

We have as yet said little about mitrailleurs. It appears to be a general impression that Mitrailleurs. it is as defensive weapons that they will prove themselves really formidable; and there will no doubt be opportunities during a defensive engagement when they may be used with rare effect against the enemy's infantry. They should be well covered, and never shown or fired until the proper opportunity occurs. Their peculiar grunt betrays their whereabouts, and will be sure to draw the concentrated fire from the enemy's guns, which expe-

rience appears to prove that they cannot reply to with advantage.

And now, supposing our Continental adversary brings into play the skirmishing system of attack against us, how are we to meet it ?

Skirmishers of
the defence.

There is but one way of stopping good skirmishers from gaining ground, and that is by sending out equally good skirmishers against them. The whole front of our position must then in any case be fringed with skirmishers ; and as the enemy presses them, so must they be reinforced, and instructed that the last thing it is their duty to do is to yield a single inch of ground.

Squadrons of light cavalry may be kept handy to the front to act on the enemy's skirmishers as opportunity offers : and on two occasions will they probably be found useful ; first, in the case of the enemy's skirmishers showing signs of wavering, when a charge would probably settle the matter ; and, secondly, if our own skirmishers gave way and ran in, when a charge might stop the enemy's pursuit, and give our own men time to rally and regain their ground.

Action of cavalry
of the defence.

As regards the mass of the troops defending a position, the duty of the divisional general would be to occupy only the important points of his position, and keep the remainder of his men in hand, and if possible out of fire, for offensive purposes.

Supports of the
defence.

Cover should be freely used, for an enemy is cer-

tain to preface his attack by a general shelling of the position, and too much pains cannot be taken to guard the mass of the troops from the effects of it.

The principal forms of cover which we should use are gun-pits, shelter-trenches, and rifle-pits.

Cover.

There can be no two opinions about the utility of gun-pits. Gunners working their guns in the open against an attack of skirmishers are very needlessly exposed to danger; but the pits must not be so deep as to interfere with a good lateral range for the guns; neither, of course, should the gunners be bound to stick to the pits, if they can produce a greater effect by coming out of them, as may frequently happen at certain phases of the action.

Gun-pits.

Shelter-trenches are a great protection to infantry, even against artillery, and all the infantry of the defence who are likely to remain under the enemy's fire, should be sheltered by them. There is, however, one matter in relation to them which would appear to require attention—they are uncomfortable arrangements to fire out of; and any one who has watched our infantry volley-firing from one, will notice the fatal tendency which it has to elevate the muzzles of their rifles. It would therefore appear to be a question whether, when a battalion is required to keep up a heavy fire at a critical moment, they would not be better out of their trench than in it. The greater effect of their fire might compensate for the temporary exposure.

Shelter-trenches.

The French were very great at covering themselves during the latter part of the war, and their fire was generally high.

As regards rifle-pits, we cannot help thinking that the better the skirmishers the less need there is for the pits. Good skirmishers will always find cover, unless the ground is hopelessly bare and open ; and rifle-pits are apt to damp their enterprise. Once comfortably ensconced in them, there is small temptation to advance into danger ; and the loss of them is demoralising to those who are driven out of them. They are, in fact, apt to make the defence offered by the skirmishers too passive.

As regards the protection of the flanks of a position.

Given a weak flank liable to be turned and sufficient troops to protect it, the difficulty lies in the disposing of those troops.

To put them into the front line and wheel them back to meet an attack on the flank is bad policy, for two reasons : first, because it shows the men that their flank is turned ; and, secondly, because when thrown back, that fatal salient angle is formed which so clips the wings of a vigorous defence. To counter-attack in any direction from such a formation is to run the risk of leaving a gap at the angle through which the enemy may penetrate into the heart of the position, as the Prussians did into Chlum at the battle of Sadowa.

To adopt the salient order in the first instance—*i.e.*, to post troops for the defence of a flank, with

their front at right angles to the general front of the position—is open to precisely the same objection.

The flank of a column executing a flanking movement is its weak point ; and by a counter-attack on that flank can the column best be met.

A good method of carrying this out would probably be to post a sufficient force of all arms, say a division, considerably to the rear, and somewhat wide of the threatened flank, its front the same as the general front. Let us suppose the right flank to be the threatened one. This detached division, then, would be posted considerably to the right rear, and a flank attack of the enemy would either have to make a very wide detour to get round it, or expose its left flank to its attack. Met in front by troops from the reserve, and taken in flank by the detached division, its situation should be sufficiently precarious.

This arrangement would not, as a rule, be difficult of application ; for an army in a good defensive position will generally manage to have one of its flanks covered by natural obstacles. If it finds itself in a position with both flanks open to attack, it will do well to retreat, and not risk an engagement with superior forces.

∴ Briefly, then, to recapitulate.

Powerful artillery and comprehensive skirmishing appear to be the two main requirements of modern warfare for attack and defence. The former we can procure without difficulty ; good material for the latter is already in our ranks.

As a nation we can well be, probably are, the best-armed in Europe. We are gifted with a race of men whose fighting quality has never been questioned, and whose national characteristic it is to look odds cheerfully in the face. Let, then, croakers say what they will, no Continental nation will have cause for congratulation on the day that 60,000 British troops are added to the muster-roll of its foes.

ESSAY III.

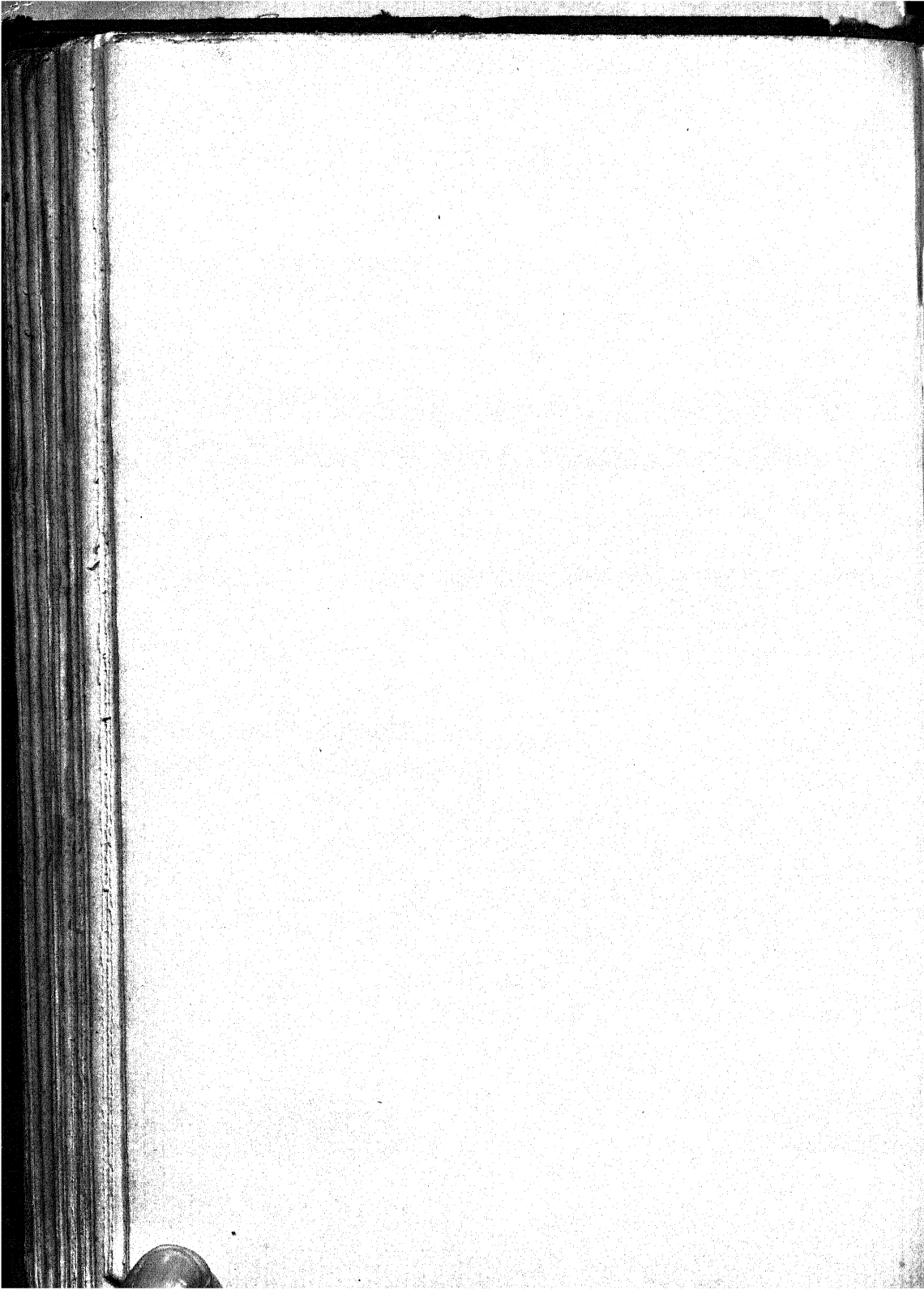
"THE OLD ORDER CHANGETH, YIELDING PLACE TO NEW."

BY

CAPTAIN J. C. RUSSELL,

10TH ROYAL HUSSARS;

A.D.C. TO MAJOR-GENERAL COMMANDING CAVALRY BRIGADE,
ALDERSHOT.



ESSAY III.

It may be said, generally speaking, that advantage in the actual encounters in war may always be traced to one or two or all of three circumstances—superiority in numbers, or in description of weapons, or in *morale*.

By superiority in numbers is not necessarily meant the obvious case in which an army is defeated by another force of twice its own size, but the superiority which is gained by the method of forming combatants in the field so as to oppose a strong force to a weak one, either by taking advantage of ground or by tactical disposition.

In like manner, superiority in weapons must not be held to mean only the advantage such as the firearms of the Spanish conquerors gave them over the Indians of Peru, but that superiority which arises from greater proficiency in the use of equal weapons, as when the well-drilled musketeers of Frederick the Great met and conquered the soldiers of Austria; or again, as when special arrangements have been made to give a weapon its full effect, as by placing

obstacles in an enemy's path, so that his soldiers are delayed under the calculated fire of artillery and musketry.

A superiority in *morale* is an advantage which, perhaps, more than the other two, secures a success ; but it is in itself generally due to a previous development of them, and may fairly be considered as their natural result.

To gain the first two kinds of superiority, and eventually the third, is the purpose of all strategy and tactics, all organisation and all drill.

It has been well said that, as material for armies, there is little difference in men, and that it is only the conditions under which they fight which give the victory to one nation or army rather than to another.

Every European nation has in its turn sent forth its armies conquering and to conquer, and it ought to be a study of the deepest interest to learn under what combinations our own forces may best sustain their present reputation, and confidently meet a Continental army in the field.

When these conditions are ascertained—*i.e.*, when it has been found how superiority in weapons and numbers is generally to be achieved—it would be well that certain general principles should be established and adhered to, which should guide officers in all the operations preliminary to and during an encounter with an enemy, so that the general commanding should have a well-assured foundation on which to build his special plan of action.

Chance and individual intelligence should on no account be trusted in to make those dispositions on the spot, the reason and advantages of which can so well and logically be considered beforehand. Unanimity of thought and intention must always be of the highest importance to an army, and it is too late to attempt to communicate this when the moment of action has arrived. An established system of field manoeuvres should be adhered to, which would be as an outlined sketch to guide all formations of troops, the details being filled in at pleasure by the general-in-chief.

We must on no account suppose, that because the military features of a country and the circumstances of a campaign may be infinitely varied, it is impossible to lay down fixed rules for guidance.

Practically it will be found that, with modifications for circumstances, one normal system is always practicable for use, and that much discussion and delay is obviated by its adoption.

In endeavouring to discuss and work out such a system, it should be borne in mind that it must have for its first quality a perfect simplicity in all its parts, and a natural facility of execution which can commend itself to minds and capabilities of every class.

“N'est il pas evident que la simplicité et la clarté dans la théorie, la facilité et la rapidité dans l'exécution sont la loi absolue des manoeuvres et de la tactique modernes.”*

* L'Armée Française en 1867 : Trochu.

It does not appear to be contemplated at the present time that England should attempt to put more than one strong corps d'armée into the field in the event of her being involved in a Continental war. Assuming such a force, therefore, as the general basis for our thoughts, and every advantage of organisation and supply being given, let us apply ourselves to consider how it may best be handled in the succession of circumstances suggested by the memorandum of his Grace the Duke of Wellington.

Mode of Forming the Columns of March when a Collision with the Enemy may be expected.

The tactical arrangements for the march of an army corps must have two things for objects—viz., to give the commander a certain choice as to the time and manner of engaging an enemy if he is encountered; and, secondly, to have the force under his command so disposed that the fullest effect may be obtained from their efforts by the employment of all the arms at the fittest time and in the fittest manner.

In placing an army *en route* from one point to another, the first question to be considered is that of the roads to be made use of.

It is, of course, obvious to every one, and it has been clearly explained in our best-known English textbook on the art of war,* “why an army always marches by as many roads leading towards its des-

* Operations of War: Hamley.

tion as are sufficiently near to admit of mutual support."

This general principle, however, good as it undoubtedly is, admits, like all others, of many modifications by circumstances.

If three roads, all equally good and practicable, lead from one point to another, a corps commander would most probably find it best to move his force in three columns along them. But let us suppose that of the three two are good paved *chaussées*, and one a rough country track, would he not arrive at his destination quicker, and, if checked by an opposing enemy, would he not be able to hurry his force up into line of battle with greater ease to himself and with less fatigue to his men, if he had disposed the mass of his force on the *chaussées*, and only kept enough troops on the country road to occupy it?

Again, taking the extreme and indeed improbable case, that there are many roads, all equally good—would it be always advisable to make use of all in an equal degree?

It is greatly to be feared that, by so doing, there might be a want of agreement between the units of a corps, which, though of little moment at a distance from the enemy, would be fatal to their combined action during a sudden encounter.

We may take, as an instance of this, the Italian army at the battle of Custozza, which, not anticipating an immediate encounter with the Archduke Albrecht, was marching on an extended front and by many roads. Two of its divisions on the left of the line

(Cerales and Sirtori) did not follow exactly the routes indicated to them, and pushed beyond the position which it was intended that they should occupy. Two divisions on its right (Bixio and Prince Humbert) were paralysed by the Austrian cavalry, and finally the whole army was defeated by the Austrian general with a smaller but more compact force.

Perhaps the safest rule to lay down would be that, at a distance from the enemy, it is safe for an army to march in many small columns; thereby saving much fatigue to the soldiers, and, what is perhaps more important, not wearing out the roads and exhausting the country, in case a retreat has to be afterwards effected along the original line of advance; but that, when a collision with an enemy is to be apprehended, the force should be more drawn together, and the separate parts of the corps d'armée brought more under the immediate command of the corps commander.

To this it may plausibly be objected that such a concentration of the force involves a great lengthening of columns, and consequent delay in deployment and taking up a position when a conflict is begun.

But we may reply that, with ordinary military precautions, sufficient time ought always to be available to place the greater portion of a column in line; and it is to be remembered that, when a collision with an enemy is imminent, the troops would be marching in so compact an order that the usual delay consequent on deployment from an ordinary column of route would be considerably lessened.

It must not be lost sight of, however, in every case, that the roads which are not made use of for the main columns of the army must still be occupied and secured for use if necessary.

From the consideration of the roads to be made use of, the next point to which we pass is the actual formation and distribution of the columns *en route*.

Every army on the march naturally divides itself into four component parts: advanced-guard, main body, baggage convoy, and rear-guard. Each of these parts has its own importance, and the composition of each equally demands attentive consideration and arrangement. On however many roads the army marches, these four divisions of the entire force ought to be found distinctly marked, while every separate column ought to have the same general distribution.

The duties of an advanced-guard, as generally understood, are twofold—to gain information of the proximity of an enemy, and to cover and protect the main body from surprise, arresting the enemy sufficiently to enable the general commanding to make his dispositions.

To these two objects a third has been added in the Prussian army—viz., to engage the enemy with so much vigour as to cause him to develop his strength and waste his resources, thereby enabling the main body to inflict a crushing blow with the greatest effect.

To gain this result a great addition is made to the strength of the advanced-guard. Whereas, by English

authorities, it is variously recommended or approved that the advanced-guard be composed of from one-fifth to one-half of the whole force,* the advanced-guard of a German army will vary from rather more to rather less than one-fourth of its strength.†

The propriety of this system admits of very serious doubt. The detaching of so great a proportion of the army involves placing a very great confidence in a subordinate leader; as, unless the corps commander himself accompanies and directs the advanced-guard (thereby leaving his headquarters for a time, which absence may entail grave consequences), an important part of an engagement may be fought without his cognisance, and possibly in a manner of which he would not approve.

Again, when so great efforts are expected from the advanced-guard, it becomes, in a measure, a forlorn-hope, and usually suffers more severe losses than the remainder of the army in proportion to its numbers. Whole regiments may be decimated in a single engagement, and rendered temporarily ineffective, while others in the same corps may have hardly fired a shot or lost a man.

Such a disposition may be practically useful in the

* Operations of War: Hamley. Soldier's Pocket-Book: Wolseley.

† This may be illustrated by the field states of two peace manœuvres as clearly as in any other way. On the 29th August 1869, at the field exercise of the Garde Corps at Berlin, of a total strength of 21 battalions, 12 batteries, 10 squadrons, the advanced-guard consisted of 5 battalions, 4 batteries, 5 squadrons. At Stargardt, in September 1869, of a total strength of 28 squadrons, 22 battalions, and 13 batteries, composing the Crown-Prince's command, the advanced-guard consisted of 5 squadrons, 6 battalions, 2 batteries.

Prussian army, which puts a vast number of combatants into the field, whose reserves are numerous and well organised, and in which a large sacrifice of life is not greatly thought of when an advantage is to be gained; but in our army, small in numbers, with a reserve organisation yet undeveloped, and in which we are chary of our men's lives, it would appear to be unwise and unsuitable.

We are thus led to conclude that the strength of an advanced-guard should only be that which is sufficient for its obviously necessary duties, and that it should not be so great as to induce its commander "to compromise himself with a superior force," * while it should be powerful enough to prevent the march of the army being "delayed by demonstrations made by insignificant bodies." †

With this end in view we may reasonably take the mean of the proportionate strength proposed by most European writers on the subject, and assume that a well-constituted force of about one-tenth of the entire army would fulfil all purposes. A larger force would approach too nearly the Prussian model, and a smaller one would be ineffective for many important duties.

It is not, however, the strength of the advanced-guard which is to be considered as of the first importance, but its composition.

A force made up of infantry alone would no doubt cover an army, check an enemy, and make its way steadily through a hostile country; but it would lack the rapidity of movement and power of traversing

* Operations of War: Hamley.

† Ibid.

distances which are necessary for gaining information, and eluding opposing pickets and patrols when bringing in the same.

Cavalry alone would effectively scour a country and detect every movement of an enemy; but it would find itself easily checked by a comparatively small force of infantry, and could neither carry nor long hold a position; while artillery alone would be obviously completely out of place.

An advanced-guard should be, as far as possible, an army complete in itself. Cavalry, infantry, artillery, and Engineers, are all essential to its perfect efficiency, and each finds its appropriate place in its composition.

The exact proportion of each arm must be determined in a great measure by the nature of the theatre of war in which operations are carried on. Thus, in an open flat country, without many obstacles, a larger number of horsemen may be used; while in one much enclosed and full of marked natural features, the infantry contingent must preponderate. Other modifying circumstances may present themselves, which should each have its due weight; but, as a rule, the proportion of each arm in the corps d'armée itself must guide the composition of the advanced-guard.

It has been said that probably the most suitable proportion for an advanced-guard to hold to the army which it covers would be about one-tenth.

This force, made up of a proportion of the different arms, should be, as far as possible, furnished by one division, and should be composed of troops accustomed to act together; so that, a mutual confidence being

established, each portion may do its own work independently of the others, and yet in perfect combination with them.

The distance at which this force should be in front of the main body must be determined by the time which is required to traverse it, rather than by any absolute rule.

Its primary functions must be so far remembered that it must be sufficiently advanced to be able to check an enemy until the corps commander has had time to make his dispositions for the employment of the main body—care being taken, however, that it is not at such a distance that the enemy can attack and annihilate it separately. This last case ought, indeed, to be almost an impossible one, if the leading patrols have done their duty, felt well the country to be traversed, and ascertained any probable danger.

It is doubtless more in accordance with the duty of an advanced-guard that it should push boldly on in front of the army, than that it should hang back, and become practically only the head of the column.

The officer commanding it must not exercise too much caution, but remember that “Il n’agit pas pour elle, mais bien pour ce que la suit.”*

In placing the advanced-guard *en route*, a large proportion of its cavalry, formed into patrolling parties, will precede and surround it on every road and track in its front and on its flanks.

The best officers, men, and horses should find employment on this duty : nowhere will intelligence and

* Avant Postes de Cavalerie Légère : De Brack.

knowledge of the art of war be of more service. The small indications of an enemy's presence or movements, which parties patrolling to a long distance in front have an opportunity of detecting, and the information with regard to the character and resources of the country, which they can secure, must always be of the greatest importance. The memory of the exploits of the German horsemen in France during the last war, is fresh as an example of what may be done by a bold and intelligent cavalry of advanced-guard.

Next to the cavalry patrols, parties of infantry should precede and flank the column. These should examine every road and by-path, every wood and building, and every spot that could shelter an enemy or a spy.

Although the 'Field Exercise for Infantry' gives sufficiently explicit directions for the carrying out of this duty, we must again take the German as the latest practical example of this item in the profession of war, and probably the best description of him at his work will be found in Captain Brackenbury's description of the "Winter Campaign of Le Mans." *

In detailing the march of the column of the advanced-guard, the different arms should move in the order in which their services are likely to be required—probably in most cases in the following sequence:—

The head of the column will be composed of the remainder of the battalion furnishing the advanced and flanking parties.

Next, the Engineers of the advanced-guard, with

* Journal of R.U.S. Institution, No. 64.

their tools, &c., ready to destroy obstacles, repair roads and bridges, and facilitate the advance of the army.

After them the battery or batteries of artillery, followed by the remaining battalions ; and in rear of all, the remainder of the cavalry, on whom should devolve the duty of maintaining constant communication with the main body of the corps d'armée.

Nowhere will trained signallers find more use for their services than with an advanced-guard. Stations may be established at intervals along the route, and every item of intelligence be flashed to the rear as soon as brought in by the advanced parties.

The waggons which must unavoidably accompany the advanced-guard, such as those for the conveyance of spare tools and indispensable military stores, should march in front of the cavalry, who form the rear of the column. It will be most necessary that all the different arms should march on as broad a front as possible, or at least that they should attempt to carry out *en route* the theoretical principle of the column of manœuvre—viz., that its depth should not exceed the length in line of the force composing it. It is doubtless more fatiguing, for infantry soldiers especially, to march for a long distance on a wide front ; but facility of formation to a front or flank is imperatively necessary to a force which, like an advanced-guard, is in the post of honour, and on whose precision and rapidity of movement the safety of the whole army may frequently depend.

In discussing the strength and disposition of the

advanced-guard, it has been assumed that the corps d'armée is moving entirely on one road, or on two or three roads, all communicating freely and constantly with each other, in which two cases one general advanced force may be sufficient for the safety of the whole army.

In the case, however, of the corps being obliged to operate in two or more columns, more or less independent of each other, the same general disposition must be made, and the same cautions adhered to, to insure the security of each.

In considering the main body of an army on the march, we must in a general way divide it into two parts—viz., those forces which it is intended are to engage the enemy and form the first line, and those which are to be held in hand as a reserve to complete a success or support a failing attack.

It is a question whether it would be best generally for every division in the corps d'armée to contribute to these two parts. No one division would then probably have more severe losses than another, and the general commanding each would be able to cause the relieving or supporting troops to act with more unanimity with those first engaged than could be possible if they belonged to separate commands. In the case of the entire corps d'armée operating on one road, it would be of course necessary that the matter should be arranged on a different footing, and that the formation of the first line should be intrusted to the leading divisions, and that the greater portion of the

remaining divisions should be held in reserve. This case would, however, rarely happen; and the more probable supposition is that, speaking generally, the divisions would be in such a disposition of columns moving in separate lines of roads, converging on or leading towards the point where a collision with the enemy might be expected, that each would be able to furnish its own portion of the first line and of the reserve.

And here it is worth remarking that a reserve is not necessarily to be held in hand, and only used late in an engagement, or nursed for the sake of its moral effect. The only real distinction between it and the first line should be, that whereas the one must engage more or less *à l'improviste*, and take its chance of the ground and the disposition of forces which it may encounter, the other should be kept conveniently placed, ready to act, and regarded as a weapon to be hurled at the adversary's weak point, as soon as it has been detected; and this should be done freely and boldly, at whatever period of the engagement the opportunity may occur.

Many battles have been lost in late years by an undue nursing of reserves, or keeping them too far from the first attack. The tide of fight might possibly have been turned at Königgratz by the mass of Austrian cavalry too long held in hand; the battalions of reserve at Trautenau, which might have turned Gablenz's success into a disaster, never came into action; and General Frossard's supineness in not moving reserves to the front, gave the Prussians the

decided victory on the Spichernberg. A small unbroken force must doubtless always be kept in hand for a last effort, or to cover a disaster; but the first duty of what is generally called a reserve should be to operate at the fittest time, whenever that time may present itself.

In marshalling a column on the march, therefore, it would probably be better not to make any authoritative distinction between the first line and reserve. Let there be rather a general disposition of the force in hand; and when the moment of action has arrived, the general may then decide with what number of troops he will first engage, and what he will retain for a second effort. If a reasonable disposition is made, there should be little difficulty in acting according to circumstances and opportunity.

It has been recognised as a principle of organisation in modern armies, that in every division there shall be a proportion of all three arms, so that the division may be used at any time as an independent force, if necessary.

Before going further, therefore, the question presents itself for consideration whether, when two or more divisions are placed together, so as to form a corps d'armée, the artillery and cavalry should each be massed together on the march, and act in large bodies under superior officers of their own, taking their orders directly from the corps commander, or whether they should remain in fact as in name, the divisional artillery and cavalry. The concentration of artillery on the march has been, and is, carried out

in many Continental armies, but it is apparently open to many objections.

It may be presumed that one of the original reasons for massing guns, when large bodies of troops were acting together, was that a very heavy and concentrated fire could be brought upon one point of an action, thereby producing an enormous effect. And undoubtedly in former days these tactics were frequently most successful. Then the effective range of artillery was comparatively small; and to make certain of a concentrated fire, it was necessary to put guns in battery close to each other.

Now, however, when the conditions are changed, and a greater distance is covered by the fire of our modern field-guns, it is no longer necessary to bring them close together in order to concentrate their fire; but batteries coming into action at different parts of a line of battle may all effectively be trained on the enemy's vulnerable point, as soon as it is detected.

Again, as has been pointed out by the author of the 'Tactical Retrospect,' large artillery masses were only formed by Napoleon, who was the most successful user of them, when he had a general qualified for the command, and when he could be certain that an effective use would be made of them.

It is indeed doubtful whether we, if we imitated his tactics, might not transport "cumbersome masses into action securely enough; but when once there, we might next perhaps be obliged to separate them again, in order to utilise them." *

* Tactical Retrospect: translated by Colonel Ouvry.

The risks of stoppage and delays, also, which a long train of guns must encounter, should deter us from placing too many together. A serious accident happening to such a great column, means that the artillery of the corps d'armée is entirely put out of action if a collision suddenly takes place ; whereas the artillery of a division, if checked by any circumstance, might be withdrawn from the force without possibly making much difference in its general efficiency.

With all these considerations in view, and remembering of what vast importance it is to all troops going into action that they should have the immediate support of artillery-fire, we may fairly conclude that divisional artillery should not be taken away under any ordinary circumstances, but that it should march with the division to which it belongs.

With regard to cavalry, it is perhaps less easy to speak authoritatively ; but, in dealing with them, the balance of argument appears to be in favour of a contrary principle from that which we think applies to artillery.

It is an undisputed fact that, under almost all circumstances, cavalry should not find a place on the road or roads which are intended for the march of infantry or guns.*

In many Continental theatres of war, the open country on each side of the main route, devoid of considerable obstacles, gives every facility for the movement of this arm ; and when this is the case, it

* Soldier's Pocket-Book : Wolseley.

may occasionally be a wise disposition to allow the divisional cavalry to march on the flank of its own division, ready to take advantage of any opportunity of action which may present itself.

If a serious collision with the enemy takes place, and a general action is developed, it will be easy in an open country to form cavalry into those masses which may be so effective.

In a country too much enclosed, too rough, or too deep, to admit of this free passage, and frequently also under other circumstances, it would appear preferable that all the cavalry, with the exception of those squadrons which are detailed for the service of the advanced-guard, and to keep up communication between all the columns, should be massed, and act with a special intention, which will be noticed hereafter, marching independently of the main body of the corps d'armée.*

In some cases, of course, this arrangement would take the cavalry far from the field in the event of a sudden encounter taking place. But it is proposed so to employ them that they will be almost invariably the first portion of the corps d'armée to feel the enemy; and we may further remark that, even if this is not the case, cavalry rarely or never begin the

* "Le régiment divisionnaire est une force trop considérable. Un ou deux escadrons seraient bien suffisants. Leur vrai rôle, suivant nous, est de relier les différentes troupes, et de mettre en communication constante les divers maillons de la chaîne qui constitue la ligne de bataille. . . . Nous avons agi autrement pendant cette campagne, et nous n'avons guère à nous en louer."—Campagne de 1870. La Cavalerie Française. Par T. Bonie.

serious work of a battle in modern war.* Their first employment, if they are used at all, will be in the preliminary manoeuvres; and, acting *en masse*, their opportunity seldom arrives before the middle or end of an engagement. Even if their march, then, does not allow them to be at hand when the first shots are fired, they will probably arrive on the scene of action in time to take their legitimate part in it.

The same argument which holds good against the massing of artillery on the march, and therefore also in action—viz., the difficulty of finding a qualified commander—may plausibly be urged against our principle. But the cases are not quite parallel; and we must remember, that though the action of artillery in small bodies disposed along a line of battle may be as generally effective as that of many batteries massed together, yet the action of small bodies of cavalry can never be of much value; and that when a great effort is to be made by that arm, as many squadrons as possible must be collected for the purpose. We must be content to trust to fortune to provide us with a general who can handle cavalry effectively, and show again how great its power is when properly used.

Leaving for a moment all consideration of tactics, however. In placing columns *en route*, another and most important point has to be provided for—viz., to make such arrangements as to neutralise the effects of accidental delays, and to reduce as much as may

* Les charges de la cavalerie n'ont lieu que par exception au début d'une action.—Decker.

be the almost inevitable elongation of columns, which results from various causes.

In a column so long as that of a corps d'armée, or even of a strong division, must necessarily be, an enormous loss of distance and consequent fatigue to the troops must be the result of the numberless little accidents, delays, and hindrances which cannot be avoided, and which, slight and insignificant in themselves, when added together form an important aggregate.

If not provided for by special precautions, the greatest disorder and confusion must arise, and, as a natural consequence, a loss of unity will follow, and of serviceableness in all the troops. The remedy which has been found most effective, and which commends itself at once as the simplest and easiest of execution, is the division of the column for marching purposes into smaller fractions, each of which should move with a certain independence of the others, and with a marked distance from those in its front and rear.

If a delay from any cause occurs in one of those fractions, or if it be necessary to allow its troops a few minutes of breathing-time and repose, a halt can be made and all ends obtained without checking the whole column, and causing irregularity and confusion in the rear.

It is difficult, indeed almost impossible, to define what the size of these fractions should be, and what should be the distance, or, what is the same thing, the difference in time of moving, between them.

It is evident that the fractions should not be too small, with large intervals; for then the remedy

would bring about the evil which it is designed to avoid. On the other hand, if the fractions are too large, the evil will not be sufficiently obviated, and half-measures may be found worse than none at all.

Like all military maxims and rules by which we should be guided, its action must depend almost entirely on circumstances of time and place; and, the propriety of the arrangement being allowed, the details of its execution may be left to those to whom these circumstances are known.

Some of the leading principles have been thus briefly noted which it is considered desirable to carry out in forming the main body of a corps d'armée on the march.

To recapitulate. It is proposed to direct it in such a number of columns as is advisable from the convenience of roads, and is consistent with perfect unity of action, and power of rapidly concentrating and using every item of the force at the fittest time.

The artillery nominally belonging to each portion of the army will remain with that portion on the march, and accompany it into action.

Divisional cavalry will not necessarily remain such, but be massed together, and, added to the reserve cavalry of the corps, will form a powerful force of that arm.

Stoppages and delays are to be particularly guarded against, and special means taken to neutralise their ill effects when they do occur.

The bulk of the separate columns will naturally be made up of infantry.

It remains to indicate roughly the general position which it is proposed that the other arms shall take on the march, and to account for the reserves of the corps d'armée, and those auxiliary services which are not necessarily a part of every division, but which must form a part of every fully-equipped army in the field.

The small cavalry detachment which is left with each column for the purpose of keeping up communication, should march at a few hundred yards in advance. It will thus be able to perform its special duties without interfering with the formation of the line of battle (in which it will have no part), if the occasion should arise.

The place for the Engineers of each division is generally allowed to be at the head of their division, for the convenience of removing obstructions, or of strengthening any position which it may be advisable rapidly to take up.

The divisional artillery will be disposed in the column in the same order in which its services will be required if the force is deployed.

The range and accuracy of modern field-guns renders them effective at such a distance that they must necessarily under almost all circumstances commence an action; and they are expected to do good service while the infantry is moving up to the point where it can reach the enemy and commence manœuvring.

This being the case, it follows that the greater part, if not the whole, of the artillery of the separate

columns, should find its place near their heads. A divisional commander may sometimes hold back a battery in reserve ; but, unless under special instructions, he will do well in most cases so to dispose his guns on the march as to be able to bring them into action immediately a conflict opens and a favourable position can be found for them.

It may be left to the artillery of the reserve, under the direction of the corps commander, to remain disengaged if necessary, and ready for any special manoeuvre which may be contemplated at a later period of an action.

The reserve of the corps d'armée, consisting probably of a cavalry division, reserve artillery, Engineers, and auxiliary services, may be thus disposed.

The cavalry reserve, with as much of the divisional cavalry added to it as can be collected, will march as has been before recommended. Their employment will be discussed with reference to covering an army on the march.

It is to be understood that the principle recommended for infantry divisions—viz., that their artillery should never be separated from them—must be also considered binding with regard to cavalry; and that in all circumstances the horse-artillery, which it is presumed will be attached to each brigade, should remain with it, and be considered one of its integral parts.*

With reference to the reserve artillery of a corps

* This principle was recognised by Napoleon, who says,—“ Pour la cavalerie, il faut une demi-batterie par chaque regiment de cuirassiers.”

d'armée, it has been urged by a Prussian artillery officer* of high position and most undoubted experience, that it should march near the head of the main body of the corps. If this rule is to be constantly followed, however, we must suppose that in every case it is intended to make use of the full power of artillery at the commencement of an action.

No one can doubt that this intention may be most judicious under certain conditions—and Prince Hohenlohe himself carried it out with success in massing 84 guns in battery before the attack of the Garde Corps at St Privat; but would not the reserve artillery be usurping the functions of the divisional artillery if it was to be held always ready to go with the latter into action? and does it not appear more generally advisable that it should be kept more in the rear of the main body, available for the use that circumstances dictate?

If need were, it could be brought to the front to pour in a crushing fire at the commencement of a battle, or it might manœuvre for a position threatening the enemy's flank, or it might wait for the crisis to make a decided effort, according to the tactical intentions of the corps commander.

The pontoon-train, reserve Engineers, and telegraph equipment, should accompany the convoy of baggage. Their services are not likely to be required except after a certain amount of deliberation, and they will have ample time to be brought up if necessary. They may therefore well be out of the way of

* Prince Hohenlohe.

those portions of the corps which must be ready for immediate action.

Having discussed the advanced-guard and main body of a corps on the march, we come to the baggage convoy.

Colonel Hamley has said that the first great distinction between a march of the kind which we are considering and an ordinary march is, "that whereas in general a long train of supplies and baggage must follow the columns, an army moving to battle disencumbers itself of all that is not essential for feeding and fighting during the day or days of conflict."*

We cannot, however, in any case dispense with a certain amount of articles requiring transport which do not actually find a place in the combatant ranks in battle.

A baggage convoy will be formed out of these, comparatively small it may be, but even in the most lightly equipped army assuming such a size as to demand attentive consideration. Without discussing the transport arrangements, length of marches, &c., which do not properly belong to our subject, we may shortly note—

First, What the baggage convoy is likely to be composed of, and where it marches. *Secondly*, The measures necessary for its safety.

As the combatant portion of the corps will include all the infantry, except a portion left for the rear-guard; all the cavalry, except a detachment for the same service; all the artillery and all the Engineers,

* Operations of War : Hamley.

—we shall find in the convoy, besides the very limited amount of baggage which is necessary for the daily efficiency of an army, the pontoon-train, telegraph equipment, police, reserve ambulances and field hospitals, and a certain amount of military stores and materials. These will form a very large mass; and though it may be reduced under certain circumstances by different items (such as by leaving pontoons where no river is likely to be encountered), yet there will always be a sufficiently large number of wheeled carriages to be a matter of anxiety.

The most comprehensive rule for the guidance of the convoy when a collision with the enemy is expected appears to be this, that it shall be so near that it may supply the necessities of the army whenever they arise, without being in such proximity that it presents an object for attack, or stands in the way of any sudden movement of the troops.

It will be best generally that the convoy of each column should march in rear of it, if the corps marches on several roads, and they are all equally good.

If there is doubt, however, about the goodness of any road, arrangements should be made to relieve it from the passage of any of the convoy; and, if necessary, the whole should be massed on one road, even if it is longer. Less delay will be caused in the end than if the risks of a break-down had been incurred.

Another occasion on which the baggage should be massed will be during flank marches of the corps, conducted on several roads, in presence of an enemy.

The whole convoy should then be on the road which is at the greatest distance from the flank exposed to the enemy.

The general safety of the convoy will be provided for by the rear-guard of the corps, but it will be advisable that separate guards should be assigned to those portions of it which do not, like the pontoon-train, &c., naturally form a disciplined, armed, and independent force. Too many men should not be given for this duty, however; only just sufficient being provided to prevent confusion among the equipages.

Every additional man taken from the combatant ranks weakens them without helping the convoy, which cannot be seriously attacked in its place between the main body and the rear-guard, and which, in case of a disaster happening to either of them, must trust to fortune and rapidity of movement for any chance of security.

The duties of the rear-guard of a corps d'armée on the march, and therefore its general composition and character, may assume two different aspects.

The rear-guard may be a small force closing a forward movement of the army, in which case its duties become purely methodical, although involving the exercise of some of the highest qualities of the soldier.

The other case is that in which the rear-guard covers the retreat of a beaten army, or is strengthened to protect the rear of an army from a probable turning movement of an enemy.

Neither of these cases demands our attention at present. The first, because its formation and duties are not generally regulated by any tactical considerations. The second, because in all important points the strength and composition of a rear-guard are then identical with those of the advanced-guard of an advancing army. Its duties are summed up by General de Brack : "Les devoirs d'une arrière-garde se résume en ces trois mots, qui doivent être sa devise, vigilance, ensemble, et fermeté." *

Mode of Covering an Army on the March or in Position, in order to conceal its Movements, and to obtain Information of those of the Enemy.

It may be said that when an army is properly disposed on the march, and is provided with well-constituted advanced and rear guards, these should include in their duties the concealing of its movements, and the gaining information of those of the enemy.

This is certainly true ; and, within a limited distance from the army to which they belong, their action is or ought to be perfectly effective ; but it is to be remembered that they are of necessity confined in their operation. They are an integral portion of the force, and are obliged to conform to its movements.

The advanced-guard in a forward march, and the rear-guard in retreat, may push far to the front or rear, and extend their feeling patrols in all directions,

* Avant Postes de Cavalerie Légère ; De Brack.

but they dare never snap their communication with the main body ; and they can only in a small degree take advantage of circumstances, which, if followed up, might afford useful information, or might, by harassing the enemy, divert his attention from more important movements.

Napoleon has said in his Memoirs that it is "the duty of advanced and rear guards to manœuvre ;" and we must not therefore impose upon them services which would extend their action in such an undue degree that they should become unable to manœuvre effectively for the ends for which they were primarily formed.

Consequently, it appears necessary that for the detached duties which we are considering, and which are so important, we must have recourse to materials whose methods of action embrace a much larger sphere, and which are less hampered in their operation than those which are provided by the ordinary formation of an army *en route*.

We apparently find these materials in the use of bodies of light troops, which may act quite independently of the army, which, by the very boldness and rapidity of their movements, may frustrate any minor attempts to arrest them, and which may penetrate the veil which the enemy has spread over his movements, and draw still closer that which conceals the operations of the army to which they themselves belong. We have seen, in the course of many of the wars of the present century, what powerful and efficacious assistance partisan troops have been able to afford,—

such as the Cossacks of the army of Russia; the Guerillas of Spain; the Raiders of the great American struggle; and, lastly, the Uhlans of Prussia, who have made their name a terror and a by-word in every town and village of France. A servile imitation of any model is certainly to be avoided, but it appears reasonable to suppose that a great measure of success would attend that general who should know how to put into the field a force resembling in some degree those just mentioned, and of such a nature that it may, by acting *en masse*, make a diversion by threatening and annoying the enemy; or, by scattering itself in many small bodies, it may search out every secret of his formation and intended movements.

It has been proposed, with reference to the disposition of cavalry, when a corps d'armée is on the march, that the whole force of that arm should be as much as possible massed together, and act under its own commander, who should take his orders for the general employment of his force directly from the general commanding-in-chief. A very powerful weapon, if judiciously employed, is thus framed; and when we consider that its natural qualifications are, or ought to be, energy and boldness of action, combined with rapidity of movement, we see that in the right employment of this mass of horsemen will be found all the advantages which we seek, and that also without impairing in any way their power of combined usefulness on the day of a general engagement. From the moment of commencing the active work of a campaign, it will no doubt be the object of a general

commanding an army to extract as much useful work as possible from every item in the force under his command. He will surely gain more by detaching his cavalry (which, under all circumstances, are going to march independently of the other arms), and by making them perform partisan work, than by commanding or allowing them to march parallel to his slower-moving main columns, only dragging themselves along in the hope that they may have an instant of action when the enemy is encountered. Unlike the mass of the infantry and other services, which often do not discover their *raison d'être* until they actually deploy for the encounter, the cavalry of a corps d'armée should commence manœuvring from the very moment when the army is put in motion. Their useful and effective employment is as much to be found before an engagement as on the field of battle itself.

Although it may not be generally advisable in modern war to employ as an advanced-guard large masses of cavalry uncombined with other troops, as was done by the first Napoleon, we have every reason to suppose that a mass of cavalry, acting in addition to an advanced-guard, and following the same general instructions and rules as those under which Napoleon directed Murat to employ his squadrons, would be fulfilling its proper duties—would be effective as a kind of permanent reconnaissance in force, and as a screen behind which the movements of the army could be secretly and effectively carried out.

If, however, cavalry is to be used in the way which

we indicate in modern war, it must be credited with a far more extended *rôle* than is often assigned to it. It must no longer be thought that it can be used solely in line of battle or on outpost duty, in combination with the other arms, dependent on them entirely for its opportunities of successful action, but it must be considered as a force able to move and manœuvre independently, and at a distance from other support, finding in itself every resource necessary to meet different contingencies. Cavalry has been considered by too many people an arm which could not do anything by itself, and which must be nursed and protected with a view to its effective use in a battle, as if that was the only occasion on which it could do effective work.

Such a chance seldom arrives ; and we should rather look to the time when it can act independently in carrying out the services which we are now considering as the most probable opportunity of cavalry in modern campaigns.

In thus enlarging the sphere of cavalry action, however, it must be premised that the training of the soldier must be extended to coincide with his duties.

Every trooper who is armed with a carbine should be trained and accustomed to act dismounted as effectively as when mounted ; * the special intelligence of each man must be developed, and a thorough confidence in his own resources impressed as well on the individual as on the mass.

* "La cavalerie doit savoir combattre à pied, être exercée à l'école du peloton et du bataillon."—Napoleon: *Memoirs*.

But if this great development is necessary in the mass of cavalry officers and soldiers, what shall be said of the qualifications necessary in the general who is to lead them?

In the words of the author of the 'Tactical Retrospect,' "He is a general among generals of the highest grade, and should know how to obviate all difficulties which stand in the way of his efficiency."

Such a man is doubtless hard to find; but as we do not despair of finding, in case of necessity, a general fitted to take the supreme direction of our army in the field, so we must hope to light on some cavalry officer who is fit to be his most important lieutenant.

The strongest objection to the employment of the cavalry of a corps d'armée on the proposed partisan duty is that, if it encountered any considerable portion of the enemy's troops, it might be betrayed into a serious action, in which, if defeated, the result might be a disorganisation and loss of its *morale* for a considerable period.

This is undeniable, if the cavalry general allowed himself to be tempted into such an engagement. But the first rule for his guidance should be, that he should never engage seriously with any but a force very inferior to his own. He should remember that, even if successful, his success would not necessarily have an extraordinary effect, and that his duty is rather to threaten and harass, which he can continually do, than to attempt to strike a single blow, of which, however heavy it may have been, the consequences are not likely to last for any length of time.

His power of withdrawing his troops at the most suitable moment must be judiciously exercised, and no encounter should be proceeded with to the end which does not promise a complete and decided success, to be attained with the least possible amount of loss.

Above all, he must bear in mind that, though intrusted with detached duties of the highest importance, he should be able at any time, if the occasion suddenly arises, to gather his force together and place it in line of battle with the rest of the army.

It seems, then, reasonable to assume the general correctness of the principle (which is indeed one of strategy rather than of tactics), that the true way "to cover an army on the march and to gain intelligence of the enemy" is to employ for the purpose a mass of cavalry, as an independent force, acting under the command of a trusted leader.

No authoritative rules for the guidance of such a force can be laid down, but a few general principles of action may be named, some of which have been already partially indicated.

First, then, the general idea of the movement of such a force should be conceived in a wide spirit. Its commander must not be cramped by too many instructions, but allowed to act as circumstances dictate: "an independent cavalry leader should take his directions rather from the enemy than from his general." *

A bold forward movement can seldom be a wrong one, and the knowledge of the general object of the

* Tactical Retrospect : translated by Colonel Ouvry.

campaign, and the probable position of the enemy, will give a fair indication of the most useful point of action.

Secondly, The whole country through which operations are to be carried on must be thoroughly searched and reconnoitred by small patrolling parties; and this service should be most carefully carried out, avoiding, however, in doing so, a very common error—viz., that of using too many patrols for the purpose, and these patrols too large. Nothing can be more fatal to the proper performance of the duty than the case in which the different patrols are constantly getting in each other's way, and the same ground is gone over, not only twice, which might be advantageous, but three or four times, which must be confusing and unnecessary.

If good maps of the country are provided, it should be easy to patrol systematically by directing the examination first to the remarkable features, such as villages, woods, &c., and then carrying on observations between them.

Thirdly, A power of concentration of every detached party should be always retained as unimpaired as possible, and every precaution taken to enable the force to fall back on the main body of the corps d'armée, and be ready to co-operate with it in case of a general action.

Fourthly, The officer commanding should be always on the *qui vive* for opportunities to make the enemy deploy his forces, and show his strength and positions; but he should studiously refrain from committing himself to an engagement. He has the power of choosing

the time when he will withdraw from the combat, and he should be careful to use it.

Fifthly, In any such manœuvre the squadrons of light cavalry should be used first, and supported by the heavier regiments and horse-artillery. A few squadrons pushed forward, and employed dismounted under cover, may be of the greatest service, as they may convey the idea to the enemy that infantry is present.

Sixthly, Finally it will be necessary that the most perfect compactness and order be maintained in the column. Each brigade and regiment should be ready to manœuvre without confusion and in its proper place. "La cavalerie a plus besoin d'ordre, de tactique, que l'infanterie même." *

The great question of supplies will of course arise, and the difficulty of feeding and maintaining a large mass of cavalry far in advance of the regular means of transport. To this we may reply that the very distance which they are ahead of the army would be in their favour, as they would find the resources of the country untouched and ready for use. Any Continental country in which a campaign is likely to take place involving the use of cavalry at all, will be well able to support them until the line of communication and supply is established, or either a further advance or a retreat is made.

In considering the problem of "covering an army on the march," &c., we have hitherto assumed that the theatre of war is fairly practicable for the employment of cavalry.

* Napoleon : Memoirs.

It is, of course, palpable to every one, that during a campaign in a country mountainous, or otherwise unfit for the mounted arm, other means must be taken to carry out the same idea.

Infantry very lightly equipped may do the same service in such a case, but if possible some means should be taken to enable even them to traverse long distances without fatigue, if not at a quicker rate than their ordinary pace of marching.

Country carts, beasts of burden of whatever kind available—anything—should be made use of to place light troops unexpectedly near the enemy, and again remove them as soon as their mission has been accomplished.

In every case the same principles should be adhered to which should guide the action of cavalry, when the theatre of war is suitable for its employment. The opportunities for doing distinguished service are numerous and palpable, and, if fairly used, may do much to secure a successful issue to a campaign.

From the question of "covering an army on the march," we pass to the other division of the subject, that of "covering an army in position."

When large masses of cavalry are available, they may be advantageously posted far in the front of a position, and, acting in the same general manner as when covering an army on the march, may be considered as affording to an army a fair guarantee against surprise.

Their action however, useful and effective as it is

as an accessory security, must not be considered sufficient. The maintenance of a regular system of outposts must always remain as indispensable to an army in position as properly-constituted advanced and rear guards are to an army on the march.

In attempting to point out and discuss such a system of outpost duty, there appear to be two parts into which the subject divides itself, and which we may consider in succession.

Firstly, The general arrangement and distribution of the troops employed.

Secondly, The description of the troops.

1. It is essential that the anxiety and labour of watchfulness should be imposed on as few men as possible, and that the greater number should reap the benefit of a well-guarded front, either for repose or to be available for the purposes of a general-in-chief.

Major-General Walker, who speaks with the experience of five campaigns, has said that he holds "the outpost duty is best done by that general who knows with exactly how few men he can cover his front and give to his main body the advantage of the greatest extension of quarters, and the largest enjoyment of the resources of a country, which is compatible with the objects which he has in view, and with the capability of rapid concentration."*

Most of the systems of outpost duty which have been considered best, and practised lately under official countenance in our own service, have been modelled to a great extent upon French and German examples.

* Journal R.U.S. Institution.

We may therefore briefly note the general regulation of outposts in the French and German armies, and from them try to arrive at the best principles for guiding our own dispositions. In comparing the two systems there appears little difference in all essential points. The "Grande Garde" of the French corresponds to the "Feldwache" of the German. Each is supported by a small force, called respectively "picquet" and "repli," which intervenes between them and the main body of the outposts called "détachement" or "Gros den Vorposten." The "Grande Garde" of the French sends out "petits postes," which in their turn furnish the sentries or vedettes. The "Feldwache" furnishes the vedettes direct, without the intervention of a smaller post, but it supplies detached non-commissioned officers' parties either in line with the vedettes or directly in rear of them.

The general arrangement which marks the system in both these services has unquestionably much to recommend it, but it has apparently the disadvantage of employing too many men, if carried out rigidly under all circumstances. So many divisions break up a force very much, and fritter it away without securing any gain in proportion to the means expended.

It cannot be denied that an enemy can always drive in vedettes and small posts whenever he is so disposed, and that no serious resistance can be offered until the main body of the outposts comes into action.

The more small posts there are, the greater will the confusion be, if the enemy should drive them in, and

consequently the less likelihood is there of an efficient resistance being offered by the main body.

In an ordinary country it would appear to be sufficient to employ, as a rule, only a picket as the one intermediate post between the main body of the outposts and the vedettes or sentries.

If the main body of the outposts is judiciously posted, with its pickets well thrown forward, each of them furnishing its double sentries or vedettes, it is hard to believe that, for ordinary purposes, more fixed posts would be necessary. The sentry or vedette should have ample time to warn the picket of the approach of an enemy; and the picket should be able to oppose such a resistance as to prevent the sentries being driven in by an insignificant force, or would protect them, in falling back on the advance of an important body.

In a thickly-enclosed country, or in towns and villages, it is without doubt necessary that more fixed parties should be made use of; but this need not involve the use of as many as those which form part of the French and German systems. An increase to the strength of the picket would meet the occasion. The picket commander could then place small posts in those places which required especial watching, though they would even then chiefly be of service in giving confidence to the advanced sentries than for any absolute advantage which they would themselves procure.

But if the number of fixed posts and sentries or vedettes should be thus curtailed, it may be asked,

and vedettes as of the greatest importance to the safety of the army, and only adding a few patrols as an accessory service, we should assume the patrols to be the most important part of the system—the part to be most carefully organised, and on whose services the greatest dependence should be placed.

The pickets would then become the points of starting and arrival of the patrols, and the places where their observations and information would be collected before being sent to the main body of the outposts.

The vedettes and sentries would be only placed at points which required constant supervision and watchfulness, either as being themselves liable to attack, or as giving a free view of the enemy's position. The main body of the outposts (*détachement* or *gros*) would remain a necessity as before. Placed in such a manner "that it can deploy in any direction, according to the different arms of which it is composed,"* it should be ready to check any sudden attack of the enemy, and screen the dispositions of the army to which it belongs.

To sum up these, the general proposed arrangement and distribution of the troops employed would be as follows: A chain of pickets, each furnishing a few double sentries or vedettes, but principally used as the *points d'appui* for a system of patrols, observing everything laterally and in advance; keeping up a constant network of communication around the position which it is sought to cover, and binding all the

* Regulations for Great Manœuvres of the Prussian Army: translated by Sir C. Staveley.

outlying parties to the main body of the outposts, which should be itself ready to move to any threatened point, and give a general support to all of them.

2. It is evident that the proportion of the different arms of the service to be employed on outpost duty must depend to a great extent on the nature of the position to be covered and the features of the country.

The duty of pickets and patrols will be best performed by a combination of cavalry and infantry.

As a rule, the sentry duty and posts of observation should be the work of the infantry, unless they are so far advanced or in such a precarious situation that there would be a marked advantage in employing mounted men to insure facility of retreat or communication.

Under most circumstances it is a waste of horsepower, and a misuse of the cavalry soldier to employ him on a duty which can be equally well performed by a man on foot.

On the other hand, the greater proportion of the patrol duty should be performed by the mounted arm. Unless the ground is altogether broken and impracticable for horsemen, it ought to be unnecessary for the infantry to furnish any patrols in advance of the line of sentries.*

That duty should be left entirely to the cavalry, except at night, when, for many reasons, it may be more suitable to employ infantry to a certain extent, though even then not altogether.

* "Reconnoitring patrols."

The intermediate patrols* behind the advanced sentries, between pickets, &c., should be performed by infantry.

It will not generally be advisable that artillery should be employed with the pickets, except for some special purpose—as to protect a bridge, defile, &c. They should remain with the main body of the outposts, as they can easily be moved to any point, where they would be most effective if an alarm is given. It may be advisable, however, to have the batteries marked out for them to save time in coming into action, if it be intended to defend any particular position in the advanced line.†

All three—cavalry, infantry, and artillery—with the addition under every circumstance of Engineers, should be found with the main body of the outposts. Like an advanced-guard, this should be an army complete in itself, and, in combination with its advanced pickets, and their patrols and sentries, should be able and ready under all circumstances to “give an army or detachment notice of the movements of the enemy, and guard it against surprise.”‡

It will be noticed that, in discussing the subject, it has been assumed that there is only one main body of the outposts, furnishing pickets, &c. &c.

For one army corps, unless in a very extended position, it is urged that this would be the most

* “Visiting patrols.”

† This appears to have been the method adopted for using artillery at the Prussian outposts during the investment of Paris.

‡ Operations of War: Hamley.

advantageous disposition of a covering force, and the one involving least fatigue to the troops, on account of the unity of action which is gained.

If it should be absolutely necessary, however, the same system can be carried out by breaking up the covering force into two or even three divisions, and applying the same general disposition to each.

The distances which the whole covering force should be from the army, and which its own more advanced portions should have from its own main body, have not been entered upon. They depend almost entirely on circumstances of time and place, and they will be best judged by the dictates of common-sense in remembering that the force is there to "cover the army in position, in order to conceal its movements, and obtain information of those of the enemy."

Mode of Forming, Combining, and Employing the different Arms for attacking an Enemy in Position.

We may find it the most convenient method of considering this subject to take the formation and general plan of employment of each of the three arms in succession, and afterwards to pass to the combination of all in offensive action.

There have been always two objects to be gained in the use of infantry, to secure which all formations and combinations of movements have been directed. One is the development of FIRE, and the other the development of FORCE.

The systems used for gaining these two objects have been called respectively "fire tactics" and "shock tactics," and have been employed respectively, the first in both offensive and defensive action, the second solely in the offensive.

In offensive operations, however, although "fire tactics" bore always a certain value, the moral and physical effects of the "shock tactics" were considered as of primary importance.

In our day this belief has been very much modified. The introduction of breech-loading arms of precision has added to the power of the individual more, comparatively, than to that of the mass. "Fire tactics" have been considered of more and more importance, and, even in attack, have developed a power which has caused them to take the place of "shock tactics" to a great extent.

Although this is certainly the case, and the tendency of modern military ideas borne out by the results of the use of breech-loaders in recent war is towards considering "fire tactics" as the most important in the offensive, there can be no doubt that, unless a great and radical change takes place in the conditions of war, "shock tactics" can never be entirely dispensed with. We have not yet seen any instances of positions being carried by fire alone, and it is still necessary that, at some point, troops shall close, or show a disposition to close, with their enemy. In handling infantry in battle, therefore, the great problem must be to know how to form them, so as to obtain the fullest effect from their fire, while retain-

ing a shock power to be employed when the occasion serves.

Before going further, we may glance at the three normal formations of infantry—line, column, and skirmishers—and see to what extent each lends itself to our purpose.

The line formation possesses many advantages. It is the one from which the greatest effect of fire can be obtained, and it can claim a very large amount of shock power.

It is, however, a formation which can be used only by infantry which is gifted in a remarkable degree with steadiness and powers of manœuvring. The musketeers of Frederick the Great practised it with all the confidence and effect due to their perfection of drill, and in later times we have seen it accepted as the regular formation of attack for British infantry.

Its drawbacks, however, are many and evident. From the instant that it is formed and leaves its position, it presents an unbroken target to the musketry and artillery of the enemy. Every little obstacle and irregularity which it encounters mars its formation; and who that has ever watched the movement of a line in anything like rough ground, even during peace manœuvres, can be satisfied that it retains any of its normal advantage unimpaired after a long and rapid advance? The advocates of the line formation must remember that, in the face of the fire of the old musket, the line could move at its ease, correcting its faults, until it came to within a very short

distance of the enemy ; its formation could not be greatly injured during the final rush of attack, and its impact on a foe was therefore unbroken and strong.

The conditions of battle are now changed, and, under the fire of long-range breech-loaders, the line commences to suffer and to lose its cohesion at a long distance from the point where the final assault is to take place. Is any one bold enough to say that even the most brave and steady troops can still advance over ground thus defended, so unbroken and so firmly as to be able finally to deliver an attack with any effect?

The expedient by which the unwieldiness inherent in a long unbroken line has been met—viz., advancing in short echelon from the centre or flank of the battalion—overcomes to a certain extent the difficulties of the ground ; but the large target still remains, and the result cannot be accepted as satisfactory.

We may therefore conclude that the line formation is not adapted for the advance of infantry over a long space of ground, and that some other formation must be made use of that it may arrive at the point of impact in effective order.*

The column, as a formation of attack, has, till within a period of very few years, been looked upon by all tacticians with the highest favour. It possesses the characteristics noted by Jomini as essential—"solidity,

* "Prince Frederic Charles observed long ago the necessity for giving greater mobility to the infantry than was possible by stiff formation of battalions in line."—Captain C. B. Brackenbury, in *Journal of R.U.S. Institution*.

mobility, and momentum."* The experience of recent war, however, seems to teach that its day is past, and that it is impossible, in the face of the fire of breech-loaders, for a column to attempt to carry a position by means of a bayonet attack.†

It may be said that it did not require breech-loaders to effect this, and that the cool and well-directed fire of the old musket had the same effect.‡

Still, such a result could not always be calculated on ; and the chassepot and other improved weapons, which have not only increased the volume of the fire of the defence, but its zone of effect, have now given renewed confidence and power to troops who would be otherwise little qualified to hold their ground against an energetic attack.

But though the formation in column is no longer to be held as in any way feasible for the attack itself in open ground, it must still remain as valuable as ever as a preliminary formation for advancing troops. It is easily formed from column of route, and its compactness and mobility enable a general to keep a force thus disposed under his own immediate control, until he has decided to what point their efforts are to be directed.

The greatest advantage which the column can claim, however, is, that by it troops are able to derive

* Art. 44.

† "The fighting of the first part of the campaign of 1870 yielded incontestable proof that the attack in line of columns on open ground was a useless waste of men."—System of Attack of Prussian Infantry.—Duke of Würtemberg : translated by Captain Robinson.

‡ British fire against French columns at Albuera, Busaco, Talavera, &c. &c.

the fullest benefit from any inequality of ground or other casual means of shelter. So much is this to be considered, indeed, that it may be questioned whether, in the hands of skilful commanders, infantry are not safer from fire in small flexible columns, even at a short distance from an enemy's position, except on very open ground, than they would be in more extended order.

In night attacks, when presumably fire has lost its special advantage, there seems no reason why the attack in column should not be recurred to, when the conditions under which it was formerly successful are thus partially reproduced. Troops in column would have less chance of falling into confusion, and would act with more unity than in any other formation.

It is recorded, indeed, that at the battle of Le Mans two battalions of Jägers made an attack in skirmishing order by night without firing, and succeeded in surprising an important position.

This could hardly have happened, however, if the attack had been made on a better-constituted army than that of Chanzy; and in such a case it is probably more reasonable to rely on a weightier and more compact method of attack.

The formation which requires our most attentive study, as it has been credited with an enormous amount of power in the present day, is that of skirmishers. This should rather be named the open-order formation, as the original idea of skirmishers has been entirely lost sight of.

From being what Jomini called "an accessory,

whose duties are not to form the line of battle, but to cover it by taking advantage of the ground," the skirmishing order has become a recognised part of the line of battle, and, in the offensive particularly, has greatly influenced many of the striking military successes which we have lately witnessed.

The radical difference between the old and new method of employing skirmishers appears to be this, that whereas, formerly, skirmishers were taught that they were a feeble formation, and were expected to fall back on their supports immediately after the commencement of an engagement, leaving the ground clear for the action of the force which they had been covering, now their power is allowed—they press on against the enemy's position, and the supports, instead of covering a precipitate retreat, push on with them, extend and strengthen their line, and increase the volume of fire, the nearer the enemy is approached.* Apparently it is only in this order that infantry can push forward against the deadly fire of modern arms without suffering an unreasonable amount of loss; and it is at least plain that men trained to run forward, lie down and fire independently and coolly, have an immense advantage both in immunity from danger and in power of using their weapon effectively over those who are advancing in close order. The experience of Continental armies points out the fact, however, that the great difficulty to be encountered in

* "Every advance over open ground took place in widely-extended skirmishing lines, which moved on like ants."—Attack of Prussian Infantry—Duke of Würtemberg : translated by Captain Robinson.

using open order is that it is apt to engender much confusion, and that troops once launched against an enemy are to a great extent emancipated from control; the senior officers of a battalion lose the power of direction, and almost everything must be left to the influence of previous training, and the individual intelligence of the soldier.

In the use of open order by our own infantry, this difficulty would be unnecessarily increased if they were compelled to adhere to the rules for skirmishers in the 'Field Exercise for Infantry.' In the plan of reinforcing skirmishers there inculcated, companies become mixed together, and no company leader has his own men fairly under control.

If the open-order formation, then, is to be adopted, some method must be found to meet these difficulties, both by accustoming the individual soldier to act intelligently and confidently to the common end, though he has not the "touch of the elbow" on each side to direct and reassure him, and by so forming and arranging the whole body that control may be preserved as unimpaired as circumstances admit, and a power of rallying retained, to be exercised if necessary.

In proposing a plan for the offensive action of infantry, therefore, each formation must be made use of according to its merits. The open-order formation for advancing to and commencing the attack; the line formation for delivering a volume of fire, and inflicting a shock when the crisis arrives; and the column for the compact and safe progress of supports and reserves.

The advanced line of our force must be in open order, with a power of at any time forming and presenting a line to the enemy; and the second line in such a disposition of columns as may best accord with the ground and intended plan of attack.

To illustrate these principles, and the plan by which it is proposed to embody them, we need only consider the formation of the advanced line in detail. The question of the proper disposition of the columns in second line must be answered, as has been said, by the peculiarities of the ground and the intended plan of attack.

The simplest unit of which we may assume the advanced line to be composed is the battalion, and the proposed arrangement of it may, if approved, be modified or expanded to suit smaller or larger bodies.

Before proceeding further, it is suggested that the marksmen in battalions, whose special qualifications are not yet taken advantage of in any way, should be formed into the flank companies, and used for occasions when firing at long ranges and with great accuracy is necessary. It is proposed, then, that the battalion which is to form the advanced line of the attack should advance in echelon of companies from both flanks, its front being covered by the two flank companies as skirmishers.

As the distance from the enemy diminishes, and a heavier fire is desirable,* Nos. 2 and 7 companies should also extend on the inner flanks of the original skirmishing companies, and strengthen their line—

* Supposing the battalion to consist of eight companies.

the original skirmishing companies closing towards their respective flanks.

If a still stronger line is required, Nos. 3 and 6 can extend in like manner. When the actual moment of attack arrives, which has been prepared by the fire of the skirmishers, the open-order formation is quickly to be changed into the line; * the extended companies should rally rapidly on their leaders, and either attack as companies or form line on the rest of the battalion which is pressing on behind them.

Some of the advantages which the proposed arrangement apparently possesses may be shortly enumerated.

Firstly, When the advance commences, which will be presumably at from 1000 to 1200 yards from the enemy's position, we secure, by the employment of the flank companies (composed as suggested) as the first skirmishers, that no shots are thrown away at long distances by men not qualified to fire effectively. The full advantage of our weapon is developed, and the moral effect due to an unexpectedly deadly fire is gained.

Secondly, The evils of the present system of supports and reserves to skirmishers are avoided. There is nowhere in the formation a greater depth than that of one company exposed to fire; and if company leaders are allowed to dispose their companies in columns or sections or otherwise, according to the natural shelter

* "The mechanism of the attack consisted principally in the rapid change from open to close order, directly the most trifling cover admitted of the rallying of a subdivision or company."—Prussian infantry in the campaign of 1870-71—Duke of Würtemberg: translated by Captain Robinson.

which is available, even this amount of exposure is lessened.

Thirdly, When the skirmishing line is strengthened, each company, when it assumes open order, remains under the immediate direction of its own leader. There is no mixing of different companies, and, if it is necessary to rally, each company is nearly opposite its own place in the line, and can either fall back on it or wait for its advance.

Fourthly, The battalion leader would apparently have his battalion more in hand, and could better convey his orders to every part of it in the proposed echelon, than he could do if it were broken up in the manner at present countenanced—as skirmishers, supports, and reserves.

Fifthly, If a counter-attack were made, either from the front or flank, there would be no great difficulty in forming a line of defence in the required direction. It may be objected that a battalion formed in the manner proposed would not cover as much ground as is sometimes necessary either in depth or width of front; but there seems no reason why the principles of the echelon formation should not be maintained, while allowing the companies to take as much extra distance, both to the front and flank, as might be desirable.

It has been said that the disposition in columns of the second line must greatly depend on the peculiar features of the field of action, and these must also teach at what distance from the enemy the formation of attack is to be assumed. As soon as musketry-fire

becomes effective, the open-order formation becomes in some degree a necessity ; but as long as shelter is available, and nothing can be gained by extending the force, we may judge that it is better to keep it as compact as possible, and available for movement in any direction.

Although the propriety of keeping troops under cover is strongly to be advocated, and every facility for doing so to be fairly taken advantage of, the prevalent idea that the first duty of a commander is to keep his men out of fire is to be deprecated. His aim should be rather to succeed by skilful formation than by entire dependence on circumstances of ground. Bold attacks are not less effective now than heretofore ; and we may still believe that courage and steadiness in drill will be as valuable under the new conditions which tactics have to encounter as under the old, and that we have only to recognise these conditions in order to maintain the superiority of our infantry, which has been so often acknowledged.

The rules for the employment of artillery in modern war appear to have changed
Artillery. less, comparatively, than for that of the other arms ; and, in the offensive especially, when no previous knowledge of distances enables the artillery officer to utilise to the utmost the range and extreme accuracy of his guns, the same tactical principles hold good that have always been in force.

The duties of artillery in the offensive are shortly to be summarised. It opens the engagement, begins the work of shaking the enemy, which is to be com-

pleted by the efforts of the other arms, and it supports their advance.

Let us consider briefly how these duties are to be best carried out.

In discussing the disposition of a corps d'armée on the march, it has been urged that the divisional batteries should march near the heads of the columns to which they are attached. They will therefore be in such a position as to be able to come into action without delay.

As soon as the advanced-guard feels the enemy, and it is probable that an engagement is imminent, the officer commanding the divisional artillery, and, if possible, the battery leaders, should ride at once to the front, minutely reconnoitre the ground, and select the most favourable position for the guns, so that no battery may be delayed or unnecessarily expose itself in taking its place.

As in the time of Frederick, artillery cannonades at long distances are to be carefully avoided. They lead to no decisive result, and involve a useless expenditure of ammunition.

It has been ruled lately by an artillery officer,* arguing from the best authorities, that the longest distance at which the fire of field-guns is effective is 2500 yards, except under particular circumstances; and these, we may presume, are not likely to occur in offensive action. Artillery at this distance will probably be fairly effective; and though a sheltered position nearer the enemy may be selected, if available,

* Lieut. H. W. Hime, R.A., in 'Minor Tactics of Field Artillery.'

yet no risks of unexpectedly encountering infantry-fire, or being exposed to the sudden swoop of cavalry, should be incurred in the beginning of an action.

The best authorities have agreed in deciding that the fire of attacking artillery should chiefly be directed on the infantry and cavalry of the enemy rather than upon his batteries. If the other arms are shaken and disorganised, his artillery is defeated; whereas, if the fire of the batteries is silenced, the other arms remain as formidable as ever.

A certain proportion, reckoned by Jomini at a third, should be reserved, however, to engage artillery; and this, it may be suggested, appears to be one of the proper functions of the reserve batteries. While the divisional artillery is firing on the enemy's infantry and cavalry, which it can seriously injure by its direct fire, and naturally drawing upon itself the return-fire of his artillery, and developing its position, the reserve artillery might be advantageously employed in manœuvring for a flank position to enfilade the batteries of the defence, which cannot well be damaged in any other way.

After the dispositions of the general commanding have been made for attack, and the force has assumed its formation, and is commencing to press forward, the batteries should also change their position for one nearer the enemy.

Such a change should not be made, however, except to gain a distinct advantage. The mere fact of being nearer to the enemy does not of necessity entail such; and the commander who moves batteries

that have found their range and are doing good work, weakens his artillery-fire for an indefinite time.

When it is decided to change the position of batteries, the movement should be performed at the swiftest pace possible. They are nothing when they are in motion; they are everything when they are at a halt.

The distance from the enemy to which they should come, should be limited by the range of small-arms; and, in most instances, this would be about 900 yards. At a shorter distance,* the opposing infantry at once becomes more powerful, and they are in danger of being annihilated almost before they can unlimber. After the action has been in progress for some time, the general commanding will probably have detected the point in the enemy's formation on which he wishes the greatest efforts to be made. This he will indicate to the batteries nearest to him, and it would be well if battery leaders were instructed that when it is evident that a heavy fire is being designedly poured on to one point of the enemy's position, they should also concentrate their fire on the same spot, as much as is consistent with the disposition of the enemy in their proper front.

It has been argued before that the employment of artillery in masses is not advisable, and that it is

* "A Sadowa, une batterie rayée autrichienne, entraînée par son ardeur, se porta au galop à petite distance de l'infanterie ennemie. Cette batterie fut tellement maltraitée, qu'elle ne parvint pas même à tirer un coup de canon."—*Artillerie Belge*, par A. Nicaise, p. 40.

better to obtain a crushing fire by the simultaneous training of guns in different parts of the field on the same point. To do this effectually, much must depend on the individual battery leaders, who should make it their business to find out that point without waiting for specific orders, and use their discretion in employing their guns accordingly.

Finally, the most marked difference between the action of artillery and the other arms appears to be this :—

Cavalry and infantry are obliged to expose themselves from time to time, and the moral effect of such boldness, even if they do not come to close quarters with the enemy, is sometimes incalculable.

The moral effect of artillery, on the other hand, is greatly increased by concealment. A battery which is masked in any degree strikes more terror into an enemy than one that is seen, independently of the greater efficacy of its fire. Artillery leaders, then, almost more than any others, should study ground ; and in placing their batteries, any inequality, if only a slight roll in the surface, should be turned to account.

In the wars of the middle ages, and even in those of a much more recent date, cavalry constituted the principal force of an army ; and the general who could reckon on bringing into the field the largest number of well-trained squadrons, might reasonably promise himself victory.

The gradual and continued improvement in the equipment and tactics of the other arms has added

to their power ; and comparatively small compensating advantage having been gained by cavalry, it was apparently little by little in danger of losing all of its influence in the field of battle, and, in the opinion of many, had only the prospect of employment in future wars in the subsidiary services of orderlies and outposts.

The wars of the last ten years have, however, demonstrated how fallacious this opinion is, how varied and important are the duties which good cavalry perform, and how essential they are in the composition of armies. "So long as rapidity, boldness, and dash are active agents in war, the cavalry will retain its importance." *

It has been already urged that the true employment for the cavalry of a corps d'armée on the march, is to operate as an independent force at a distance from the corps d'armée, to cover its movements and gain information of those of the enemy. In performing duties of this description, the models from which much may be learnt are the successful raids † that were made by cavalry on both sides during the American struggle. There it was seen how, with well-timed boldness, a swiftly-moving mass of horsemen could be carried behind an enemy's position in safety, destroying railways and magazines, and doing him much mischief, while at the same time it avoided any serious engagement. A mass of cavalry of which the operations were conceived in a similar

* Tactical Retrospect ; translated by Colonel Ouvry.

† Raid of Stuart in October 1862. Raid of Stoneman in May 1863.

wide spirit, and which possessed in addition the reconnoitring and intelligence-gaining power displayed by the Germans in their last wars, must be held as possessing much influence on a campaign.

Our business at present, however, is to consider the probable employment of cavalry in line of battle. And here we may remark, that although the fire of the weapons of the present day would appear to preclude any movement of cavalry against an enemy's position, yet the broken ground which marks the general character of modern battle-fields suggests that even a large mass of cavalry should be able to creep up unperceived to the most advantageous spot for action, and be ready to seize its opportunity when it presents itself.

It is a fact to be noticed, that the German armies, though making use of direct assaults with the greatest boldness, yet owe many of their most striking successes to their great development of the system of flank attacks; and it may be that here we have shadowed out one of the most important duties which will be required of cavalry in future battles. The making or repelling flank attacks will take an important part in the calculations of all generals; and as for such service rapidity, dash, and boldness will be required in no ordinary degree, we may expect to see cavalry, combined with horse-artillery, the principal agent employed, if not to complete, at any rate to initiate, any such movement.

It will be objected that cavalry and horse-artillery would be useless without the assistance of infantry;

but we have not yet seen fully developed the results of the intelligent use of cavalry trained to act dismounted.

With cavalry so trained, and retaining, besides, their proper dash and swiftness of movement, is it not fair to assume that if they are not powerful enough to complete an operation by themselves, they would be at least able to establish a foothold either for offence or defence in any spot, until the infantry could follow and support them ?

The marked advantage of their employment would be, that if the movement seemed likely to prove ineffective, it would be comparatively easy for cavalry to withdraw rapidly without compromising itself. Whereas, if a force of infantry is detached to make a flank movement before it is certainly ascertained that it is likely to succeed, it may not only be ineffective for the object which it seeks, but it is committed to a course of action, and it may leave the main line of battle vulnerable to a bold advance of the enemy.

It is at least probable, then, that this may be a method of employing a force of cavalry in future battles ; but if it be so, then, as has been before insisted on, the training of the soldier must coincide with the variety of the duties required of him. It must not be supposed, however, that because new duties must now be imposed upon cavalry, and new qualifications must therefore be looked for in them, the old duties and the old qualifications are to be in any way lost sight of. The opportunities of the mounted arm remain little changed, and the well-trained squadrons

which are ready to dismount and hold a position, must also be prepared to resume their original duties, and charge with energy and well-drilled accuracy.*

It has been remarked that the inequalities in the surface of modern battle-fields may be made to neutralise, in some degree, the greater range and deadliness of modern weapons, and that cavalry should be able to arrive at a *point d'appui* for effective operation without greatly exposing itself. The opportunity for that effective operation will be found apparently in future battles in the same combination of circumstances as in those of fifty years ago.

Unquestionably it will be found that cavalry which attacks unbroken infantry, or goes within short range of batteries, must inevitably be annihilated; but cavalry were never supposed to do these things even in the days of the old firearms, and the difference in the result now is one only of degree. Broken infantry, guns limbered-up, and shaken lines, are as liable as ever to be its victims, and it still meets unbroken cavalry upon equal terms.

* An example of what may thus be accomplished, may be found in the action of some French cavalry at Spichern: "Les troupes primitivement chargées de la défense du débouché des bois, ayant dû se replier, il ne resta sur ce point qu'une compagnie du génie et une partie du 12^e dragons. Deux escadrons de ce régiment mirent pied à terre, se placèrent derrière les petites tranchées construites rapidement par le génie, et ouvrirent le feu contre les têtes de colonnes qui s'avançaient. Les ayant arrêtées, ils remontèrent à cheval, et chargèrent l'ennemi, qu'ils parvinrent à repousser. Après ce brillant exploit ils se replièrent derrière la ligne du chemin de fer. Avec l'aide de la compagnie du génie, ils maintinrent leurs position assez longtemps pour permettre au troupes, qui occupaient Forbach, de prendre leurs dispositions militaires."—La Cavalerie Française, par T. Bonie.

It is doubtless true that, under certain exceptional circumstances, as when the Prussian Garde Dragoons charged at Gravelotte for a specific purpose, exceptional loss will take place; but, in the words of Napoleon, "Pour faire une omelette, il faut casser les œufs"—and for an important and desirable result the loss must be encountered.

The first principle to be observed in all cavalry attacks is the absolute necessity of a second line.

Even if victorious, the disorganisation is as great in an attacking force as if they had suffered a defeat, and it is indispensable that there should be an unbroken force, behind which the fragments of the first line engaged should be able to retire and recover its organisation.

And here, again, we find the advantage of massing all the cavalry of a corps d'armée together. An ample margin of numbers is given for forming a strong supporting line, and also for keeping some squadrons still in hand in reserve, to cover a disaster or complete a success.

As the most vulnerable part of any cavalry formation is its flank, special provision must be made in moving a line to the attack to insure the safety of its own flank, and to threaten that of the enemy.

Both in the Austrian and Prussian services this has been recognised as a principle of drill, and has been carried out in action. They have found that this is best done by one or other of two most simple and effective methods—viz., either by throwing forward a portion of the attacking line in echelon of squadrons

from a flank, or by retaining a portion in column in rear of a flank.

In the first case the echelon forms line against the enemy's flank, and attacks simultaneously with the line; in the second, the column passes the flank of the line rapidly to the front, and is available either to make or repel an attack.

We must not expect, however, that even when the point of attack is indicated to them, cavalry can deploy at once and advance in line. A formation must be used to traverse rough ground, and to utilise casual means of shelter from fire, for both of which ends the line is ill adapted.

In the Prussian cavalry, a line of squadron columns of pelotons at deploying distance meets every requirement. They are flexible in movement, expose little front and inconsiderable depth to artillery-fire, and from them a line can be formed with the greatest rapidity.

In our weaker regiments it would perhaps be more advisable that squadron columns of troops at deploying distance should be employed. The depth of column exposed to fire would be less than in the Prussian system; and though the width would be greater, it would be in an inappreciable degree.

The Russian cavalry practise the formation of line of double columns of troops from the centre of wings of regiments. This formation has many of the advantages of the line of squadron columns, and there appears no reason why it may not frequently be used.

Unless the ground over which the advance is to be

made has been carefully reconnoitred beforehand, it is of the utmost importance that one or two men from each squadron should be made to ride at some distance in front of the line, ready to give warning before it is too late if the ground suddenly becomes impassable. The neglect of this precaution may have the most serious consequences.*

And this mention of *éclaireurs* leads us to the consideration of the present use of mounted skirmishers, as countenanced in our cavalry drill.

Except as *éclaireurs* or moving vedettes in front of an advancing force, to prevent surprise either by the enemy or by bad ground—for which service one or two men per squadron should be amply sufficient—it does not appear that the use of horsemen in open order is necessary, or, indeed, anything but a waste of horsepower. Their fire must be perfectly useless, except as a signal. They have not the power to check a bold reconnoitring force of the enemy, nor can they in any way cover the movements which are going on in their rear. Apparently the old duties with which they were intrusted must now be divided and redistributed.

To observe and gain intelligence is still the duty of a few *éclaireurs* in front or flank of a body of cavalry. To cover the movements of the same body must be the part of horse-artillery or of a portion of its force

* "Dans sa précipitation à marcher au devant de l'ennemi, le régiment de hussards avait négligé de se faire couvrir par des éclaireurs ; au moment où il venait de prendre le galop, il tomba sur un ravin profond, dissimulé par les blés, et que l'on n'avait pas aperçu."—Hist. de la Campagne de 1866.

dismounted and thrown upon some vantage-ground, from which their fire can be really effective.

To mask movements, a threatening compact force will keep a prying enemy at a distance more surely than the same number of troopers scattered in open order.

In considering the employment of cavalry, no attempt has been made to distinguish between the duties of the different classes of that arm. The equipment of the mounted soldier does not come within the scope of our subject, and it has been possible only to suggest what may, and perhaps must, be expected from their exertions as a whole. It is self-evident, however, that those who would do away with heavy cavalry—and, indeed, very heavy cavalry—make a grand tactical error. When the moment of conflict arrives, as arrive it must, when two armies are both strong in horsemen, it must result in the victory of the leader who has the heaviest and most solid squadrons in hand to strike the last blow. Trautenau, Nachod, and Königgratz bore witness to the advantage which the big powerful men of Prussia gained by their weight and size over the equally-well-trained but smaller Austrian cavalry ;* and the cavalry fight at Rezonville showed how powerless the hussars of France were to injure the Prussian dragoons.†

The proportion of each class of cavalry to be incor-

* *Vide* Accounts in Seven Weeks' War—Hozier ; and Hist. de la Campagne de 1866.

† “Nos chevaux de cavalerie légère sont venus se briser contre le mur impassible et résistant des dragons prussiens.”—La Cavalerie Française, par T. Bonie.

porated in a corps d'armée, so as to provide that the general service may be performed efficiently, and that there may yet be some portion with special qualifications to meet special contingencies, is not now to be discussed. When this is determined, then it will become a principle of the highest importance that the special troops should only be used for the special occasion for which they are intended, and that they are not to be needlessly employed in general duty. The cuirassier is not to be used as a scout, nor the lancer dismounted, but each retains his proper sphere of usefulness, and looks to it alone for employment.

In passing to the combined action of all three arms, we find that it is difficult to say in what
Combined action. it properly consists, on account of the innumerable variations to which it is subject.

Each arm has special conditions of ground, and special modifications of circumstances, to which it looks for its most happy opportunity; and it is not probable that it will be found in any battle-field that infantry, cavalry, and artillery can all play their part in an equally important degree.

In the words of Jomini, "It seems a waste of breath to say that the commander of a body of troops composed of the three arms should employ them so that they will give mutual support and assistance."

If a commander rightly appreciates the distinctive qualities of each, he will see an infinite variety of methods of combining them in battle. Though doubtless occasions may and do arise when all three arms

act simultaneously to a common end, yet it is possible to form some distinct idea as to when each arm is likely to be most in requisition by decomposing an ideal attack on an enemy in position into its several phases.

We may separate an ideal attack into four parts.

First, The preparatory manœuvres.

Second, The initiatory action of artillery.

Third, The general advance.

Fourth, The pursuit or retreat, according to the issue of the day.

We cannot expect to find in any battle all these phases distinctly marked. They become blended and confused, and in some cases one or more of them are altogether wanting.

We count as preparatory manœuvres not only all the detached duties which light troops perform when an action is probable, but also flank attacks and turning movements, without which no direct assault can apparently now be practicable.

The expression "duties of light troops" sufficiently indicates by what arm they are to be performed, and it has been before argued that flanking or turning movements must probably employ cavalry in the future to a great extent.

The principal agent in this first phase, therefore, will be cavalry acting with horse-artillery ; and the success of its operations will be most important to the rest of the army.

In the initiatory action of artillery, the cavalry will have no active part. They will remain in shelter as much as may be, but give confidence to the artillery

and the infantry, who are forming for advance, by being in readiness to check any movement against their flanks.

This phase is the great opportunity of the artillery; and the effective fire of the batteries will be of greater account now than afterwards, when the infantry-fire becomes more active.

The general advance will only take place if the last phases of the combat have been successful, and the enemy's line is more or less shaken—and in this the infantry arm asserts its predominance. The artillery still supports it with its fire, and the cavalry is ready to cover it if necessary; but its resolute advance and musketry action are now the weapons to be depended on.

Lastly, in either pursuit or retreat, except in very broken ground, when both become a series of struggles for positions suited only to infantry, the cavalry again become the most essential agent. In pursuit, it may convert a moderate success into an important victory. In covering a retreat, it may on the other hand convert what might be ruin into what may be called only a serious reverse.

Having thus noted briefly the salient features which all offensive actions must present in a greater or less degree, and the relation which the three arms of the service bear to each of them, it may be concluded that the most comprehensive rule for their combination must be, that each arm must be so placed in the line of battle, due regard being had for circumstances of ground, that when the moment for its employment

arrives, it may be found ready to act under the conditions most favourable to its efficiency.

Mode of Combining and Employing the different Arms for receiving the Attack of an Enemy.

The army which acts on the offensive has unquestionably certain marked advantages. It has the moral superiority which comes of the mere fact of motion and the desire of action. It can, in a measure, choose its own time and manner of attack, and it may launch the greater part of its force against one point of the enemy's position; while the latter is obliged to keep his troops more extended, not knowing where the heaviest assault is to be expected.

The defending force, however, can reckon on a counterbalancing superiority in other respects.

It can wait till the assailant is in difficulties before entering upon a return-attack.

It has a power of delivering fire with the most unimpeded effect, and it is assisted by the accidents of ground, increased by artificial aids.

In discussing these advantages, and the methods of benefiting by them to the utmost, we may probably discover the best method for combining and employing the three arms to receive an attack.

And first, with regard to counter-attacks. Although they may not probably be attempted quite at the commencement of a defensive action, yet, as the possibility of making them must be one of the most important contingencies which enter into the

Counter-
attacks.

calculations of every general who selects a spot in which to receive an enemy's attack, they claim our first attention.

Jomini has inculcated more emphatically that "every army which maintains a strictly defensive attitude must, if attacked, be at last driven from its position; whilst, by all the advantages of the defensive system, and holding itself ready to take the offensive when the occasion offers, it may hope for the greatest success."

Although this principle is generally recognised, yet we have occasionally seen failure follow its application. But of this we think we can always trace the cause, which it is well to note.

It may be found sometimes in the existence of obstacles which have been utilised for defence, but which, when the defensive action is abandoned, become as hurtful as they were formerly advantageous—sometimes in the imperfect conception of the general plan of the counter-attack itself.

A fairly apt example of the first cause of failure is found in the battle of Langensalza. The river Unstrutt, which had protected the front of the Hanoverian army during the early part of the battle, and impeded the Prussian attack, became just as difficult an obstacle to the defenders when General Arentschild wished to pass from the defensive to the offensive; and although the passage of the river was eventually made, yet it caused delay, confusion, and loss to the troops employed.

The second cause of failure, and the one which

touches our subject more nearly, is apparently illustrated by the counter-attacks which were attempted by the French armies on different occasions during the last war.

By examining the causes of the failure of these, some ideas may be gathered for our own future guidance.

The Duke of Würtemberg sums up shortly the most noticeable of them: "The direct offensive was alone and exclusively resorted to on the part of the defence." *

This was first seen in the commencement of the campaign, and afterwards in all the struggles, in which, contrary to the rules of tactics most suited to their national peculiarities, the French armies were obliged to stand upon the defensive in position, instead of being the attacking forces.

It was inevitable that a direct counter-attack thus made must have two results. It took away from the defenders the advantage of shelter, and placed them in that respect on the same footing as the advancing enemy, and exposed them to their fire; and it also masked and interfered with the musketry and artillery of the force, which was left behind in position. In almost every case it was unsuccessful. The troops who made it suffered immense loss, and even if they checked the attacking enemy for a short time, they were obliged eventually to fall back again, without effecting anything permanently useful or important.

* System of Attack of Prussian Infantry in 1870-71—Duke of Würtemberg: translated by Captain Robinson.

Apparently, then, in counter-attacks, as in the direct assault of a position, it is contrary to reason, in the words of Marshal Bugeaud, to "take the bull by the horns," as long as any other method is open by which our end may be accomplished. We have seen with what care it is necessary to proceed to the attack of a position in the face of the fire of modern firearms; with what skill a formation must be constructed for the direct advance; and how, in modern war, it is more than ever advisable to prepare and support that advance by flank attacks and turning movements. The same arguments and the same conclusions apply equally to the counter-attack from the defence, and the same precautions must therefore be taken in organising it.

Here, again, the value of a good cavalry will be found for initiating the movement; and in the case of infantry, the same necessity will remain for preserving a formation in which fire and shock tactics have each their due development.

The period of the action for delivering the counter-attack must depend on the object with which it is made. It may be made while the advancing enemy is yet in good order, with the view of harassing him and distracting him from his object—and to this kind of counter-attack the observations which have been made especially apply—or it may be made after the assaulting force has been shaken and disorganised, with the view of completely breaking it up.

In the first case, the time for its execution must be judged by circumstances of the occasion. The oppor-

tunity for the second must be detected by the commander, and the favourable moment taken advantage of before it passes.

In the counter-attack for this second purpose, a more compact formation and more direct offensive blow may be resorted to than in the other.

The very shallow and extended formation which has been used with so much success by the German armies, and which probably must be more or less adopted by all in modern conflicts, must have this disadvantage, that if it loses its continuity at any part by accident or by heavy loss, the general of the army in position against which it is operating may seize the opportunity, pour his cavalry, followed by the other arms, through the gap, and not only cut the first line in two, but possibly also create alarm and confusion in the reserves.

The fire-action of a defending force must, if the superiority of position has been utilised, be more powerful, as being more susceptible of study than that of the attack. Ranges will have been marked out, and distances accurately measured, especially those of the spots which the enemy must necessarily occupy in his advance, so that the whole *terrain* in front of the position may be thoroughly searched out, and under the full command of both artillery and musketry. The means of obtaining this command, and profiting by it to the utmost, is to be considered.

First, with regard to artillery. If, as has been noted, the first duty of artillery officers, with an army

acting on the offensive, is to study the ground before placing batteries in position, it is still more important that the officers of the artillery of the defence should know with the most thorough knowledge the field on which they are going to act, and not only use the shelter and advantages afforded by nature to the utmost, but add to them in every possible manner.*

If a position has been chosen with any deliberation for fighting a defensive battle, there must almost always be time and opportunity for constructing epaulments, or at least some kind of parapet for sheltering the gunners and the pieces themselves. In this respect the Austrian artillery at Königgratz † may be cited as an example to be followed. In the time which was available, it had provided itself with batteries, carefully constructed, and in some instances furnished even with magazines for powder.

In carrying out these arrangements, however, the possibility of advance or retreat must not be lost sight of, and provision must be made that the guns can be easily moved to the front in pursuit, or to the rear in the case of a defeat. Many of the Austrian guns were lost at Königgratz, because the horses and limbers had been sent too far out of fire, so that, when the moment of retreat came, only the lightest ones could be removed. ‡

* "The most obvious lesson to be learned from the campaigns of 1866 and 1870 is, that it is not alone desirable, but necessary, to cover the guns and horses of a battery from the enemy's fire, either by field intrenchments or by accidents of ground."—*Minor Tactics of Field Artillery*, by Lieut. Hime, R.A.

† *Seven Weeks' War. Emploi de l'Artillerie rayée en Campaign*, p. 26.

‡ *Seven Weeks' War*.

In placing several batteries in position, it is above all things necessary to avoid placing them in the same alignment. If this precaution is not taken, the enfilade-fire, which the enemy's artillery will presumably attempt to pour on them, will be injurious to all if it successfully reaches one.

But besides providing for security, the artillery commanders have an almost more important duty to perform in studying the probable line of advance of an attacking enemy. As has been said above, distances and ranges must be measured and marked out, so that each shot fired may have the fullest effect. And this is the more important now that ricochet-fire is no longer available, and the discharge of each shell fired from a rifled-gun can be calculated with the nicest accuracy. Again we find the action of the Austrian artillery at Königgratz a model for imitation.* Poles and barked trees were made use of to show the ranges of the different distances from the batteries; and the results of this prevision were shown in the "splendid practice" which checked the advance of Prince Frederick Charles, and would have gone far to alter the fortunes of the day if the action of the other arms had been equally well-timed and efficient.

It has been remarked that the principal objects at which the fire of the artillery of an army acting in the offensive is to be directed, are the cavalry and infantry of the enemy. The same observation holds good with regard to the artillery of the defence, and for the same reasons. The principle must, however, be only carried

* Seven Weeks' War.

out in a modified degree; and at certain periods of the engagement, the attacking batteries should claim much of the attention of those opposed to them.

At the commencement of an action the defending guns may profitably open upon artillery, and prevent it from affording the requisite support to the deploying columns. As the action proceeds, the fire should then rather be directed on the advancing infantry, and only attack the artillery when it presents a fair opportunity, either by making a movement to a flank, taking up a new position, or otherwise greatly exposing itself.

The method of extracting the greatest effect from the fire of infantry on the defensive appears to have changed little theoretically from that used by Wellington in the days of the Peninsular war. "He chose positions difficult to approach, and covered all their avenues by swarms of Spanish and Portuguese riflemen, who were skilled in taking advantage of the ground; . . . while his excellent English infantry, sheltered from the fire, were posted a hundred yards in rear of the crest, to await the arrival of these columns." *

This disposition apparently leaves nothing to be desired for obtaining the fullest effect from defending musketry.†

* Jomini: Appendix to Art of War.

† "La tactique de la défense a subi moins de changements que celle de l'offensive. . . . Le corps de bataille (première ligne) déployé le plus souvent, est, autant que possible couvert par des plis de terrain ou par des tranchées. . . . Les tirailleurs, embusqués dans le terrain, couvrent les approches de la position."—Tactique de l'Infanterie, par le Capt. Pontus.

If the best shots (flank companies) are extended in front of the battalion, covering all the approaches to its position with their fire, their action becomes effective the moment the leading files of the enemy come within visible range. As the attack proceeds, and the enemy still advances, the skirmishers fall back, and the period for the action of the deployed line commences; and here the question arises, how the fire of the line may be most effectively delivered.

It is laid down in the 'Field Exercise for Infantry' that independent firing may be permitted "under very exceptional circumstances," and it follows, therefore, that volley-firing is to be generally employed. This is, accordingly, the rule with our infantry. It is, doubtless, supported by much that is reasonable, and it has the sanction of long-established custom. Its effects were terrible in the Peninsula, and were recognised as almost invincible by Marshal Bugeaud.*

It is a security against the waste of ammunition, and it allows a cessation of fire to be ordered and carried out without difficulty. Besides all these points, it is argued in its favour that it gives the control of the fire to the educated intelligence of the officer, so that it may be used in the most effective manner and at the most opportune moment.

But with our musketry-training carried to the perfection which is now aimed at, when every man is taught to be a master of his weapon, and to understand all its capabilities, does it not occur to us that some-

* "Celui de l'ennemi pleni d'ensemble et de précision nous foudroyait."—L'Armée Française en 1867.

thing of power is lost in thus taking from well-trained men so much of the direction of the rifle which they handle, and subjecting it to the judgment and discretion of their leader?

In the days of the old musket, when accurate fire was impossible, and the best direction that could be given to the soldier was to discharge his weapon "breast-high," the moral effect of a storm of bullets was of great value. But with our improved weapon, whose every shot should tell, such an effect is not so much sought after. We should rather seek a moral effect in greater deadliness of fire, and this we do not apparently gain in firing volleys by word of command.

The method of firing which commends itself rather to our reason is independent firing with a certain named number of rounds. The trained soldier can thus use his weapon intelligently, instead of discharging it more or less mechanically; and the discipline and control of fire is still maintained.

The volley-fire may be reserved, and profitably used for occasions when a sudden and decided effect is desired at close quarters.* The result of an unimpeded and deadly compact fire may then be most important and decisive. When the element of suddenness is withdrawn, then, as has been said, it

* "Le bataillon de 31^e s'arreta : les deux premiers rangs mirent genou à terre pour recevoir l'ennemi par un feu de bataillon sur quatre rangs. Il faisait un beau clair de lune : on attendit pour faire feu qu'on peut voir clairement l'ennemi, puis on tira à 30 pas. . . . La colonne autrichienne battit en retraite, laissant derrière elle un grand nombre de morts."—Hist. de la Campagne de 1866.

is at least questionable whether the independent fire is not to be preferred.

From the days of the Roman legionaries, it has been always recognised that, in forming
Artificial shelter. and establishing an army to receive the attack of an enemy, the natural advantages of the ground are not to be considered sufficient to constitute a good position, but that it is almost always indispensable that they should be added to and perfected by artificial means. It is not to be supposed that it will be possible or even expedient always to erect elaborate fortifications; but that fortification which consists in rifle-pits, shelter-trenches, and the rendering the passage of natural obstacles by the enemy still more difficult, is always practicable, and is unquestionably of the greatest utility. The introduction of long-range breech-loading arms of precision, from the action of which it is indispensable that troops should be sheltered until the moment of action to the greatest extent possible, has given a new importance to this species of defence, and we see its methodical application practised by every European army.

“It is impossible to lay down the exact circumstances under which it would be necessary to shelter troops by means of artificial cover.”* The true system of employing it appears to be this, that the dispositions of an army are not to be interfered with by any consideration of temporary shelter, either made or in progress; but the troops should be

* Field Exercise for Infantry, Part V.

instructed that as soon as they find themselves in any situation, they should, as a matter of course, proceed at once to shelter themselves by the best means available. And this, although it apparently involves constant and renewed labour if positions are frequently changed, is yet not impracticable if the soldier has acquired readiness and dexterity in the work.

The American armies, in the war of Secession, have shown how feasible it is to make the obtaining of shelter synonymous with taking up a position.

General de Trobriant records how his own brigade, having to change its position twice in less than an hour, left behind on each occasion an almost complete line of shelter-trenches. If, however, the principle involved in this is to be approved as a just one, then in the equipment of the soldier it must be provided that he has means always at hand for executing the work required; and, as Napoleon said, the tool of the pioneer must be one of the articles of equipment from which he should never be separated.

Some of the advantages, then, which the defender has over the assailant have been noticed,
Combination. and we have seen the share which the different arms of the service have in each of them.

The combined employment of all three arms appears in its form to be as variable in the defence as in the attack. As an engagement develops itself, there will always be at least one point in the defender's position on which the most strenuous efforts

will be made; and on the natural features of that point will depend in a great measure the proportionate strain which will be put on each arm for resistance or counter-attack.

After the commencement of a battle, the general who is waiting to receive the attack of the enemy must be guided in his dispositions by the enemy's movements; and it therefore appears to be a wise rule to do no more than occupy sufficiently the line of front which it is necessary to defend, and to retain as many compact reserves as may be, to be moved to those points where the attack is most strongly developed, or where the assailant's line is weakest and most vulnerable.

The sooner these points are detected, and the greater disposable force of the appropriate arms that can be thrown upon them, the greater is the chance of the defender's success; and the general who knows when the action of any one arm is appropriate rather than another, and employs it accordingly, will have gone far towards the solution of the problem which we have been considering.

In considering the subject suggested by his Grace the Duke of Wellington under its different heads, an attempt has been made to trace some principles which may form part of a foundation for a system of field manœuvres, rather than to mark out distinct methods and rules for their application.

In the last great European conflict, we have seen an army, which had an assured set of principles of action, a due division of responsibility, and a perfect

knowledge in each man and officer of the special duties required of him, triumph over an army which, it is not too much to say, possessed none of these qualities.

If the occasion should unhappily arise that England, having long looked on at the conflicts of her Continental neighbours, be compelled to step herself into the arena, we must hope to see that she has noted and profited by the tricks of fence which she has had an opportunity of learning by observation, and that to them she has added all the advantages which come of careful study and due preparation.

ESSAY IV.

"UBIQUE"—7.777-777.

BY

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ESSAY IV.

(a.) *Mode of Forming the Columns of March when a Collision with the Enemy may be expected.*

AN English army of three army corps and a division of cavalry, is advancing by three good roads fit for all sorts of carriages, and by some minor and intervening roads and lanes suitable only for cavalry and infantry, one or two divisions marching on each road—the cavalry division on one or both flanks, according to circumstances—the right road being about 12 or 15 miles distant from the left one.

In considering this subject, it would be well to treat it under two heads.

Firstly, You are moving to attack an enemy known to be in position, as was the case when the Allies marched upon the Alma.

Secondly, You are advancing to find the enemy, whose intention and exact whereabouts are unknown, with a view to fight him wherever you may find him, as was the intention of both sides in 1859, when advancing upon Solferino, and as is always the case with a pursuing army.

The advance should be made on the broadest possible front. This is a principle that should never be forgotten for a moment by either the staff officer who has to arrange the details of the operation, or by the officers in immediate command of columns. The former should endeavour to find as many roads as possible which can be rendered available for the advance, and the latter should be always careful that every advantage is taken of the ground marched over to move his regiments on the broadest possible front, taking care that roads are never so blocked up with troops that staff officers cannot move backwards and forwards along them.

To state the rule in a few words, extend the front within the limits laid down for the right and left as much as is possible without retarding the march, and contract the depth to the utmost, taking care only that confusion is not caused thereby.

In most countries the breadth of front, or, in other words, the number of columns by which an army can advance in any required direction, will be at once indicated by a glance at the map, for the number of columns can seldom exceed the number of existing roads that can be made available.

Unless the country is very much cut up by canals, or is very deep or marshy, the cavalry can generally find its way across the fields, leaving the roads for the infantry and artillery. A detachment of mounted sappers, with tools carried on horses or mules, should accompany each brigade of cavalry for the purpose of opening passages through difficult fences, &c. Dur-

ing this operation the army, composed as previously detailed, would be covered by an advanced-guard on each of the three principal roads, consisting of a battalion of rifles, a brigade of infantry, a regiment of cavalry, a battery of horse-artillery without its waggons, one mitrailleur, and a company of Engineers, with tools on mules or horses. No carts of any description, except the regimental ones for small-arm ammunition, and for the intrenching tools, to be allowed. Detachments from these advanced-guards should march on a level with them by the several minor paths to the right and left. The smallest possible number of non-combatants should be attached to these advanced-guards. As regards their fighting powers, they should be miniature armies in themselves, constituted and composed as armies should always be, with special regard to the nature of the country.

Their distance from the main body must greatly depend upon the relative condition of the two opposing armies. If you have attained such a moral ascendancy over your enemy that, like the Prussians after Sedan, you are prepared to attack him then and there whenever you come up with him, the interval should be about a couple of miles ; but if you should consider it necessary to reconnoitre his position before attacking him, or should you object to be attacked on ground chosen by him for that purpose (should he suddenly assume the offensive), it will be necessary to increase the interval between the advanced-guard and the main body to five or more miles.

The nature of the country will form an element in calculating these distances; for if it is close, and abounds in strong natural positions, there is less liability of the advanced-guard being overwhelmed by an enterprising enemy before it can be supported by the main body.

These should in their turn be covered by other advanced-guards detached from them to the front, from whom again smaller parties are pushed forward still further, until in fact the country to be included in the operations is completely covered along its entire breadth by a line of moving outposts, with their reserves and supports—every place being carefully searched by skirmishers. The army thus advances behind its moving screen of outposts, and their attendant sentries and vedettes, having parties of cavalry pushed on far ahead along every road.

It is impossible to lay down in yards the exact distance that should intervene between the component parts of these advanced-guards, or the distance to which the cavalry may be pushed on in advance, the state of the weather and of the roads, as well as the other considerations already detailed, having often a direct influence upon the question. The general principle, however, should be, that under no circumstances shall it be possible for the enemy to open an effective artillery-fire upon the main body of the advanced-guard, until ample time has been afforded to get its guns into position, and for its cavalry and infantry to deploy for their defence. The nature of the fences bounding the road on either side, according

as they facilitate or retard the operation of deploying to the right and left of the road, forms an element in this calculation.

As an example in mimic warfare of where that rule was entirely neglected, I may mention the advance of the 3d division on the 16th of September last, after it had forced the position of the Hog's Back. Under a mistaken apprehension of the orders given to its general verbally, to march upon Purbright and encamp there, the country in advance of the column was only searched by skirmishers to so short a distance that the main body was allowed to enter the defile formed by the village of Ash and its lanes, while the enemy held the strong position above it of Gravel-Pit Hill, from whence he opened such an artillery-fire that, had each puff of smoke brought with it a shrapnel-shell, the two batteries of artillery that were hopelessly jammed in the village, unable to get into action, must have been annihilated.

The staff officer called upon to arrange for the advance of an army under these prescribed conditions, would have to decide upon the roads to the right and left of the main one which could safely be made use of. The circumstances described as bearing upon the questions already discussed, apply equally to this problem. A very good road may run parallel with the line of advance, but its distance from the route followed by the main body may be too great, or impassable marshes or an unfordable river may intervene, rendering it useless.

In deciding upon what roads to the flanks can or

can not be made use of, the principle to be remembered is, that there should be good lateral communication between the roads used, so that it should not be possible for the enemy, assuming suddenly the offensive, to fall upon one portion of the army and crush it before the other portions moving along other roads can reach it, as Napoleon did upon the Austrians advancing to the relief of Mantua in 1796 and 1797.

The object to be arrived at under the conditions described in the first head into which I have divided the subject is, that your army should be so formed in columns of route that it may at any moment be able to deploy into line of battle quickly, and with the least possible exertion to the men.

As you approach within striking distance of the enemy, your columns should not cover more ground from right to left than you intend your troops to occupy when formed for attack.

The columns of route along each of the three principal roads by which the army is advancing should be as follows : The advanced-guard on each of those roads, constituted as previously laid down, would detach from about 500 to 1000 yards to its front an advanced party, consisting of 1 mitrailleuse, 2 horse-artillery guns, half its company of sappers with their tools, half of the rifle battalion, and half of its regiment of cavalry. The proportion between the cavalry and infantry, however, must depend upon the nature of the country : if it is open, more of the former and less of the latter, and *vice versa*. The order of march to be—the cavalry first, then the guns, then the infantry,

then the mitrailleuse, and then the Royal Engineers, with the horses carrying their tools in rear of them.

The order of march of the main body of the advanced-guard to be—first, the remaining 4 guns of the horse-battery, then the infantry and their small-arm ammunition-carts, followed by the Royal Engineers, and their tools on horses, the remaining squadrons of the cavalry regiment closing in the rear, and keeping up communications right and left, and with the files thrown forward in front of the main column.

The advanced-guard in this formation is best prepared for all eventualities, the guns being in a position to come quickly into action.

If an entire army corps is advancing by one road only, the columns of route of the main body to be as follows: The brigade of cavalry to march independently; and, unless the country is entirely unsuited for that arm, to start at least half an hour earlier than the rest of the army corps. On the extreme right and left roads, the cavalry brigades of the army corps moving on the flanks should if possible march on the exposed flank by some parallel roads, and by the extent of country covered by their patrols and detached parties, protect the army from any wide turning movement on the part of the enemy. The three infantry divisions follow one another, then the reserve artillery, the ammunition-columns, the Engineers and their train, followed by the whole of the baggage, closed in by a small rear-guard, the police of the corps being with it, under the orders of the

provost-marshal. One mitrailleur should be with all such rear-guards.

When marching to attack an enemy known to be occupying a certain position, it will generally be well that all the divisional artillery of the three infantry divisions should be massed together in front of the leading divisions, having only one infantry battalion in their front to protect them from surprise. When this plan is adopted, all their waggons should be massed in rear of the infantry. The guns will thus be ready to get into position and begin the action as soon as the head of your column arrives within range of the enemy. No time is thus lost, for the first phase of the battle is going on whilst the infantry is deploying into position.

As regards transport generally, every regiment is to be immediately followed by its small-arm ammunition and its tool carts, no other baggage of any description being allowed with it under any circumstances. The baggage to be collected by regiments, brigades, and divisions; the column of waggons, &c., being formed in exactly the same order along the road that the brigades, &c., occupy in the column of route. The detailed arrangements for the management of the baggage is a matter of the utmost importance to the welfare of an army. Ride from the rear-guard along the line of baggage of an army until you reach the troops, and you will be able to form a tolerably exact estimate of its discipline, and of its campaigning and fighting value.

When the artillery of the army corps is not massed

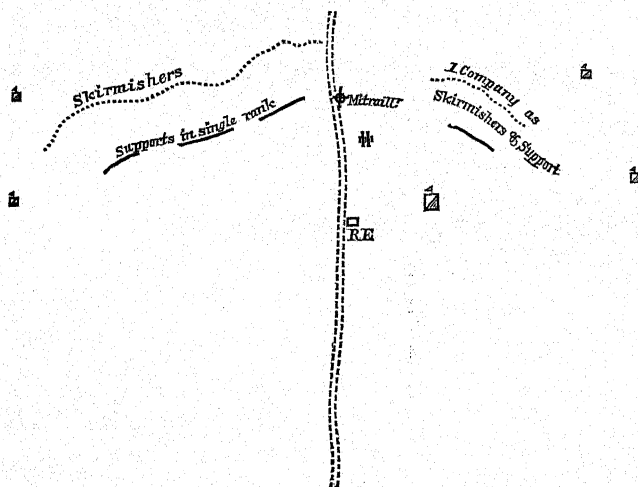
in front, the order of march of each division to be thus :—

The battalion of rifles, the two divisional batteries of artillery, the company of Royal Engineers, the 1st infantry brigade, the 2d infantry brigade, the infantry and artillery reserve ammunition-columns ; the regiment of cavalry being in front or rear, or being distributed on the flanks for the protection of the column, according as circumstances may require.

Each division so formed in column of route, the infantry marching in fours would occupy about $3\frac{1}{4}$ miles of road. The space of road occupied by an army corps so constituted marching by a single road, would be 13 miles from the head of the leading battalion to the rear of the divisional reserve ammunition-column of the rear division, or about $14\frac{1}{2}$ miles to the rear of the regimental baggage, making no allowance whatever for commissariat trains, but supposing all the cavalry to be on the road in sections. If, as will generally be the case, it can find its way across the fields, its wheeled transport alone keeping the road, the space of road occupied would be about $1\frac{1}{2}$ mile less. In most civilised countries, however, it would generally be found possible to allot two roads for the advance of each army corps, thereby greatly diminishing the depth from front to rear.

Let us now suppose that the enemy has been found in position at 8 A.M. by the advanced parties of cavalry, who are driven in upon the main body of the advanced-guard.

The advanced party of the advanced-guard* assumes the following formation: The mitrailleuse and the 2 guns get into the best available position on one side of, but close to the road, for they must be ready to retreat, and to be able to do so quickly, if the advanced-guard should be pushed back by a forward



[N.B.—The detached parties of cavalry cannot be shown, as their position must depend upon circumstances.]

movement of the enemy in force. The squadron of cavalry, distributed as skirmishers and as detached and flanking parties, hold their ground if possible, and endeavour to see where the enemy is posted, and to divine his intentions; the other squadron collects

- * 2 Squadrons of Cavalry.
- 1 Mitrailleuse.
- 2 Horse-Artillery Guns.
- Half-Battalion of Rifles.
- Half-Company of Royal Engineers.

as a support to the guns ; whilst the half-battalion of rifles is thrown into a line of skirmishers and supports—3 companies on the opposite side of the road to the guns, and 1 company on the other flank. The half-company of Engineers get off the road and remain in rear, but on the same side of the road as the guns. Information is at once sent back to the main body of the advanced-guard, and to the main columns in rear.

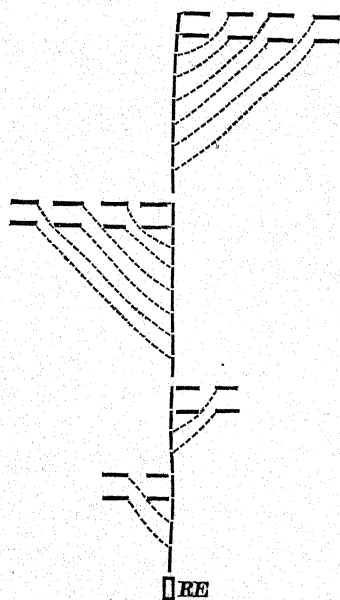
The main body of the advanced-guard * gets into line with its advanced party as soon as possible. With this object, it would be as well for the cavalry and guns to trot on, the guns coming into action immediately upon reaching the front. The battalion of rifles to follow them at their ordinary pace in column of route. The infantry brigade to deploy at once in two lines *à cheval* on the road—two battalions in the front and one in the second line, both being in half-wing columns at deploying intervals.

The system pursued by some of our infantry commanding officers, of doubling their men to the front when going into action, is most objectionable. During the late autumnal manœuvres, in certainly one rifle battalion the men were so fatigued by this practice that, had the operations been serious ones, we should have lost all advantage from their fire, for men when blown cannot fire well. Like that wild careering of batteries at the gallop

* 4 Guns Horse-Artillery.
Half-Battalion of Rifles.
1 Brigade of Infantry.
Half-Company Royal Engineers.
2 Squadrons of Cavalry.

over a parade-ground which is the pride of some horse-artillerymen, it is pretty to look at, but is unsuited for practice in war.

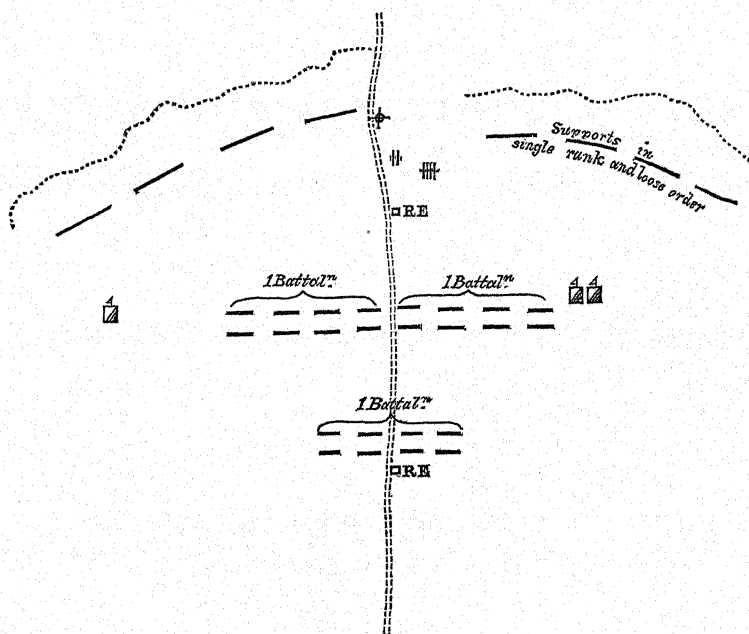
Supposing the infantry to be marching in fours,



this manœuvre can best be accomplished by the leading battalion and the right wing of third battalion deploying to the right by the oblique march of companies into a line of half-wing columns at full intervals, the second battalion and left wing of third battalion doing the same to the left of the road. The brigade would then be half on one side of the road and half on the other, as shown in diagram. In

five minutes they should be in the position indicated; and presuming that there was an interval of 1000 yards between the advanced-guard and its advanced party, it would take the former about 15 minutes in this formation to reach the latter; and allowing five minutes more for the second battalion to form up on the left of the first, and for the third to move up to supporting distance of the first line, within 25

minutes after the news had been received that the enemy was discovered in force in front, the whole of



the advanced-guard should be in line somewhat as shown in diagram.

Suppose that it took 15 minutes for an officer galloping from the advanced scouting-parties to convey the news to the advanced-guard, it would take about 40 minutes from the moment when the enemy was first discovered before the whole of the advanced-guard was in fighting order of battle. If the head of the main column was about a couple of miles in rear of

the advanced-guard, it would take about a quarter of an hour to convey the news from the latter to the former, and about 40 minutes more before the advanced-guard in position would be reinforced. In other words, the advanced party would receive the support of the main body of the advanced-guard deployed and ready for action in 25 minutes, and the whole would be still further supported in about 40 minutes more by the troops of the main column. No risk whatever would therefore be incurred; for if your advanced parties of cavalry had been at all active, the enemy would have been perceived before he had succeeded in getting any considerable force within a less distance of your advanced-guard than that intervening between it and your main column. The presence of mitrailleurs with advanced and rear guards will, it is believed, be henceforth looked upon as a necessity. Cover can easily be obtained for at least one of these weapons in most positions, and its fire for defensive purposes (until the arrival of the main body) would enable the advanced-guard to hold its own against long odds.

It would be for the general commanding to decide whether he should deploy the army on the ground it occupied, either when the sound of guns in advance was first heard, or upon the arrival of the messenger from the advanced-guard announcing the enemy's presence in force; or whether he should continue his forward movement along the road for the purpose of deploying nearer the advanced-guard. Unless the latter is very hard pressed, it is better to deploy at a

distance from it ; and, under those circumstances even, the deployment had better be made at once, sending forward only such assistance in column of route as may be deemed absolutely necessary for the safety of the advanced-guard.

The officer in command of the advanced-guard, knowing exactly the distance between him and the main body in rear, would know the time that must elapse ere he could be supported. It would be for him to decide what he should do, whether he should merely remain in position holding his own, or whether he should boldly attack. With a pursuing army, or with one that had obtained a moral ascendancy over its antagonist, the latter course should almost invariably be adopted. If Sheridan had not done so when he came up with General Lee's army retreating from Petersburg, or if Alvensleben had not attacked the French as he did on the 16th August 1870, the retreating armies in both instances would have escaped. In such cases it is the duty of the general commanding the advanced-guard to sacrifice himself and his command by engaging in an unequal combat. Every hour that he can, no matter at what loss to himself, hold his enemy before him, he assists materially in tightening the rope round his opponent's neck, which, if only kept there long enough, must eventually strangle him.

(b.) *Mode of Covering an Army on the March or in Position, in order to conceal its Movements, and to obtain Information of those of the Enemy.*

The subjects to be discussed under the heads of (a.) and (b.) are so intimately connected, that, in describing the formation of columns of route, I have dwelt in general terms upon the system of protecting them from surprise.

In addition to the precautions already detailed as necessary to prevent surprise when on the march, it is very desirable, when at a distance from the enemy, that specially-formed corps of observation should be pushed forward two, three, or more marches ahead, to feel for him, and ascertain his whereabouts and intentions by the capture of prisoners, letters, &c. &c., remembering that where these services are best performed, that army is least liable to surprise. The army where these duties are efficiently performed has many chances in its favour; and it is very desirable that a system should be recognised by us and laid down in our drill-books for carrying this into practice.

An army should be, of course, at all times, whether halted or on the march, covered by a screen of out-posts. An open fan gives one an idea of what this screen should look like on a map, where the outside ends of the sticks indicate the position of the out-posts, patrols, and detached corps watching over the safety of an army located or moving near the centre.

The more constantly these detached parties are in contact with the enemy, making prisoners, &c. &c., the more efficiently will you protect your army not only from surprise, but from the inquisitiveness of your adversary, and the more likely are you to ascertain with certainty what he is about; in other words, the one follows as a matter of course on the other.

A well-organised intelligence department, having spies in every quarter and in every town of the enemy, is an indispensable necessity, without which it is impossible to carry on war successfully. Much of the success gained by the Prussians in 1866 and in 1870 was owing to the admirable manner in which this work was organised and carried out in their army.

The work to be performed by the advanced parties of an army comes really under the head of outpost duty. Unfortunately, with us those duties are generally associated in our minds with defensive operations. Our drill-books lay down rules for their guidance as if the object was almost exclusively protection from surprise, whereas the aim ought really to be to obtain information regarding the enemy, knowing that by so doing you best accomplish the former object.

No time should be lost in issuing new regulations on this subject.* Many of our officers thoroughly understand its most advanced principles, but until those have been published in our Field Exercise

* Since this was written, orders have been issued by H.R.H. the Field-Marshal Commanding in Chief for a committee to assemble for the purpose of revising our regulations regarding outposts.

book it is difficult to practise them. This was made very evident last September; even in the same division one saw the general, the brigadiers, and the commanding officers all working on different systems. A captain commanding a company told me that upon one occasion, when practising outpost duty then, the pickets were posted by his commanding officer according to our drill-book. The brigadier came to inspect them, and found fault because they were not distributed as laid down in Lord F. Fitz-Clarence's work on outposts; and when the general commanding arrived, he disapproved of both systems, and ordered them to act in accordance with the Prussian method.

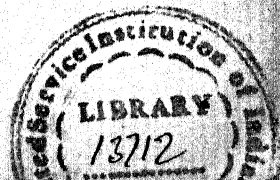
The further you can push your advanced parties to the front without compromising their safety, the greater will be their opportunities for efficiently fulfilling their object. It is impossible to lay down any fixed rules on this point. Many things must be considered as bearing thereon: the magnitude of the opposing armies, the respective efficiency and *morale* of each, the relative genius of the leaders, and especially the nature of the theatre of war.

From time immemorial it has been customary to employ upon these duties light cavalry, light infantry, and the lightest of field-artillery. About 150 years ago the dragoon was the soldier most used for this purpose: he was a foot-soldier on horseback, armed and equipped like infantry, and trained to fight on foot; he had nothing of the cavalry-man about him but his power of rapid locomotion. Such is the man for this work.

We have heard much of the admirable manner in which this work was performed recently by the Prussian Uhlans. Now, with the exception of a cuirassier, a lancer is the least suited of all cavalry for outpost or other detached duties; and I have no hesitation in saying that the Uhlans, intelligently as they may have acted, and ably as they may have been led, would have gone to the wall everywhere had they been opposed by mounted infantry supported by a small proportion of our admirable cavalry.

Of the true dragoon we have no representation in our army, nor do I know that he exists with other nations. During the American war, however, the whole of the mounted force on both sides was so organised, it having been found impossible to improvise regular cavalry suddenly, especially in the north, where the true Yankee is not a horseman. The closeness of the country forming the theatre of war, also rendered impossible the use of cavalry purely as a combatant arm. Neither side possessed any force resembling regular European cavalry, but both made use of mounted infantry to an extent never tried before, and used it to great advantage.

If we wish to have the duties now under consideration well performed in our next war, it will behove us to raise a sufficient number of mounted infantry the moment that war becomes imminent. Galloways, ponies or horses that from their small size would not do for cavalry or artillery, would answer its requirements; even mules, if horses could not be had, would do: it is only essential that they should be



strong and very hardy. It would be out of place here to go into any description of the equipment or internal organisation of such a force. Suffice it to say, the men must be fair shots, and well drilled and practised infantry skirmishers. There should not be, as in the cavalry, any dismounted men—all casualties amongst the men being supplied by volunteers from the infantry regiments in rear. A small proportion of the men might, however, in level countries well provided with roads, be carried in light waggons. A force consisting of 2000 such mounted infantry, a good hussar regiment, a detachment of mounted sappers with tools on horseback, a couple of mitrailleurs, and a battery of horse-artillery under the command of a dashing and enterprising leader, might go anywhere, and would do more effective service in protecting an army from surprise, in concealing the movements made behind it, and in obtaining information of those of the enemy, than one consisting of three times that number of the finest lancers in the world, in which category the Prussian Uhlans cannot be reckoned.

Such a force split up into parties of from 100 to 500 men, working ahead of the ordinary advanced-guards of our army, ought not only to afford general protection against surprise, but should be able to ferret out the enemy's doings and intentions.

Cavalry, but especially lancers, on outpost duty in front of such mounted infantry, would be powerless. Say a reconnoitring party, consisting of one or two squadrons composed of lancers, comes upon an ene-

my's patrol of 50 infantry. The former is powerless against the 50 men armed with breech-loading rifles. Indeed, in a close country—such as that operated upon in the immediate vicinity of the Hog's Back last autumn—20 riflemen on foot could keep ten times that number of lancers at bay, and stop their further progress.

In discussing the subject of the previous article (*a.*), I have given details regarding the formation of advanced-guards, with our troops organised as they are at present; but the next time we take the field, if the general commanding has the same views as the writer, he will have, with an army of the strength under consideration, certainly not more than one-half of the cavalry detailed for it (24 regiments, about 12,000 sabres*), but he will be as strong in mounted infantry as he can with due regard to the forage resources of the country to be operated in. Horses fit for the conveyance of these mounted infantry can be requisitionised in most countries. Great care must always be taken that this force never degenerates into bad cavalry, or into Dr Johnson's definition of a dragoon.

An army in position, or on the march, is never so effectively protected and its movements concealed as when, in every district that can be included in the zone of operations, there are detached corps of mounted infantry observing the enemy, spreading false reports

* That would be the strength of the cavalry in an army composed as stated at the beginning of this paper, in accordance with our present organisation for divisions, &c. &c.

abroad to mislead him, imposing upon him, and concealing their numerical insignificance by audacity. A party consisting of 400 mounted infantry, a squadron of cavalry, a mitrailleur, and a couple of horse-artillery guns, detached to a distance of about 15 miles to the front or to a flank, and keeping about that distance in front of a supporting force of infantry, is much more likely to effect the objects under consideration than the best-organised and best-maintained system of ordinary outlying pickets carrying out the timidly defensive method of patrolling laid down in our drill-book.

The army that has the most accurate information regarding its adversary's movements is best protected. An army covered by our passive regulation chain of pickets may be secure from surprise, but it cannot obtain thereby any certain knowledge of what the enemy is about. Although the first necessity is that your army should not be surprised, still, if to gain intelligence of the enemy was considered the first function of outposts, and was well carried out by advanced corps of observation clinging round the enemy's corps, protection from surprise would also be insured; in fact, both objects would be attained. Napoleon said a general operating in an inhabited country who was ignorant of the enemy's doings and intentions was ignorant of his profession; and in writing on this subject to his brother in Spain, he said that the single motive of procuring intelligence would be sufficient to authorise large detachments of 3000 or 4000 men being made, to seize local

authorities, post-offices, &c., with that object in view.

Until we have an English general of sufficient weight to free himself from the thralldom of newspaper correspondents, our commanders must remember that the enemy is kept almost daily informed of what they are doing, and they must be guided accordingly in all that they make known to their troops, and even to those around them. They may, however, by judicious management through these very sources, spread false intelligence, enforcing belief still further in it by threatened or even partially undertaken movements in the indicated direction.

Napoleon was a consummate master of deceit. One of his most brilliant operations, his first passage of the Po, owed much of its success to the manner in which he deceived Beaulieu, as to the point of his intended passage, by the wording of his treaty with the King of Sardinia. During the late war in America both sides were always striving to deceive one another; and many most curious instances could be cited where the cleverness and cunning displayed in spreading false information had much to do with the successes obtained.

These advanced parties of mounted infantry and cavalry, the proportion between the two being about 4 to 1, upon whom it is intended to throw all the outpost, patrol, and reconnoitring duties of the army, should have no tents. In very inclement weather they must obtain shelter for their main body in open sheds or barns, and as a rule they must live upon the

country, requisitions being duly made, and if necessary all supplies paid for by the officers commanding them. Indeed I do not believe that rapid movements can ever be made by any body of troops, whether it be a division or an entire army, upon any other system of supply.

The offensive operations of mounted infantry must be by flank attacks. Its great power of moving enables it to make wide turning movements, knowing that if beaten off the enemy's infantry cannot pursue, and that from his cavalry it has nothing to fear.

(c.) *Mode of Forming, Combining, and Employing the different Arms for Attacking an Enemy in Position.*

As a general rule, it may be assumed that all battles will henceforth begin with an artillery-fire, inasmuch as the range of rifled-guns enables the assailant to make himself felt at distances where even the present long-reaching small-arms are practically powerless. As the guns come into action, the infantry in skirmishing order is pushed to the front; and if a reconnoissance of the enemy's position had not been previously effected, it must then be made from behind this protecting screen. His weak points must be looked for, and a clear decision arrived at as to the really important spot or localities in his position the possession of which would so endanger his retreat that he would either have to fight at a disadvantage to recapture them, or to fall back to save his communications, or the occupation of which would so cut

his line into two or more distinct portions, that one could be effectually crushed without his being able to reinforce it, or at least to do so in sufficient time.

The tendency hitherto has been to use artillery to counter-batter artillery, and to use it in masses. Much stress has been laid, by writers on artillery subjects, on the great effects produced upon some remarkable instances by the fire from a large number of guns formed into one great battery. It is not intended here to combat those facts, but to decry most earnestly any imitation of them in future. Except in the great plains of India, battles can seldom be fought in positions where the ground will afford no protection for guns. A very gentle undulation allows of artillery being brought into action, so that little more than the guns' muzzles are exposed. Although it will generally be possible for the skilled artillery officer to find shelter for one or two batteries, it would seldom be feasible to do so for a great line of guns in one part of any position. The development that shell-fire has attained, and the increased accuracy and range of both artillery and small-arms, multiplies the necessity for obtaining protection from the ground for artillery in action.

The frontage of troops in order of battle must henceforth be much larger than formerly, and the proportion between the number of men and the extent of position, which in the Wellington-Napoleon era was from 10 to 12 men to the running yard of frontage, must in future be reduced one-third, if not more. This extension of front necessitates a greater dispersion of artillery along the line, so that all parts of it may

benefit by its fire. Although the effective range of field-guns may be reckoned as double what it was in 1815, the effective range of small-arms has increased proportionably ; so that now it may be accepted as a rule that artillery cannot be effectively served within 900 or even 1000 yards of infantry. Artillery can therefore no longer come into action in line with your infantry, but must seek for positions in rear of it, from whence it can deliver its fire effectively, if possible over the heads of its infantry employed in front. Notwithstanding, therefore, the great range of modern artillery, it would not be possible to bring an effective fire against the entire front of the enemy from your guns if they were massed together.

Although a concentration of batteries is to be deprecated for these reasons, a concentration of artillery-fire upon the troops defending certain points to be attacked especially is more than ever essential; and it will be evident that such a cross-fire delivered from a number of batteries dispersed along the front, will naturally be more crushing in its effects than the direct fire would be from the same number of guns massed together.

Whilst a greatly-increased mobility has been obtained for our modern field-artillery, owing to the perfection of its carriages enabling it to be taken to ground that would formerly have been deemed impracticable for guns, still the independence of action which must henceforth be conceded to it will, for many reasons, cause it to be more stationary during a battle than heretofore. Batteries when once engaged

can only change position to the front with more or less heavy loss in men, horses, and material, and with corresponding disadvantage to the army. Whilst changing position, all benefit from guns is relinquished, not only whilst limbered up, but until they have again come effectively into action, having once more accurately found the enemy's range. With rifled-guns, two or three hundred yards nearer to or further from the enemy is not now of sufficient importance that such risks and disadvantages should be braved for the purpose of getting so many yards nearer the object to be aimed at.

For the full development of artillery in attacking positions, it is essential that the position for each battery should be carefully selected, so as to secure a good command if possible of the point to be attacked, and so that your guns, waggons, &c., should be screened from the enemy's view. No mean part of the artilleryman's art is in this selection: some places that to the ignorant appear to fulfil every requirement, would be rejected by the skilled commander of a battery as fatal, owing perhaps to the stoniness of the ground immediately in its front, &c.

The first phase of an offensive general action will, it may be assumed, be an artillery-fire from about one-half to two-thirds of your guns placed in carefully-selected positions, under cover of which your infantry deploy upon the broadest possible front compatible with that strength which it is essential all lines should possess; and your cavalry takes post wherever it can obtain protection from fire, and by means of the de-

tachments that had covered your flanks during the advance, and by squadrons sent to reinforce them, they guard you from any turning movement on the part of the enemy, or at least insure your having timely warning of his attempting such an operation.

It may be observed that in all the recent offensive actions, the Prussians never attempted to pierce the French centre, a mode of attack to which the great Napoleon was very partial. It can easily be understood how very difficult, except under peculiar and exceptional circumstances, that manœuvre must henceforth be, owing to the great power afforded by rifled-arms of bringing a converging and annihilating fire upon a central attacking column.

The flanks, therefore, will be the points to be aimed at. Except with very superior numbers, it would be madness to attack seriously both flanks of a position. Indeed, in most positions one flank will generally rest upon strong ground, precluding all chance of success on that side. The assailant is therefore naturally driven to attack the other flank.

In selecting this point of attack, a new consideration arises in addition to those already well-known and laid down in every military text-book. As artillery cannot henceforth be in line with attacking infantry, it is very desirable that the ground opposite the selected point of attack should render it possible for you to post your artillery so that its fire could be maintained up to the last moment before making the final and decisive charge with your infantry, and that a similar advantage be denied to the enemy. When-

ever you can secure that double advantage, you have many chances in your favour that, *ceteris paribus*, ought of themselves to secure your success.

This is a point especially to be remembered in selecting a point of attack. The French guns on the 18th August 1870, were so placed on their left that their fire could be delivered over the heads of their infantry, whilst that advantage was denied to the Prussians. Although the latter had immensely superior numbers, they failed in all their attempts along that portion of the position, succeeding only near St Privat, where that advantage was denied the French by the glacis-like configuration of the ground.

The flank to be attacked having been selected, a gradual extension of front in that direction will be initiated, false attacks being made upon the other flank. In all flank attacks and wide turning movements, especially those made to distract the enemy's attention from the real point aimed at, the assistance of mounted infantry is most valuable.

With reference to the use of cavalry in attacks upon an enemy's position, the more one studies the battles lately fought in France, the more one is convinced that the chief use of cavalry henceforth will be as the eyes and ears of an army. The days of grand imposing charges of horsemen in masses are past, and only to be remembered amongst the spirit-stirring deeds of a bygone era. During the late war, the cavalry on both sides remained idle listeners to the roar of distant guns. Or when upon any occasion this

course was departed from—by the one side from the bravado born of overweening confidence inspired by success, or by the other side from the passions arising from despair—the result proved the folly of the proceeding. We read of whole regiments of French cavalry being as it were crushed to death by the infantry-fire at Sedan, in their efforts not so much for victory as to prove that all chivalrous gallantry had not quite departed from their stricken and demoralised army. The deduction I draw, therefore, from these our most recent lessons in war, is, that during an action, cavalry, as a combatant arm, can seldom be of much decisive use; whilst the duties of obtaining information of the enemy's doings, of protecting the flanks, and concealing your movements, can be more effectively performed by corps consisting of mounted infantry and cavalry in the proportions already mentioned.

The first period of a modern attack upon an enemy in position may therefore be described as follows: From about one-half to two-thirds of your guns in action dispersed in groups of one or more batteries along your entire front in carefully-selected positions; about one-third of your infantry as a line of skirmishers and supports in extended order, feeling the enemy everywhere along the entire breadth of his position, having a second line of equal strength, but formed in small pliable columns, immediately in rear of it; your divisional cavalry posted by regiments as near the front as protection from fire could be obtained for it; two-thirds of your mounted infantry

and a proportion of your reserve cavalry and horse-artillery making a false attack on one flank, whilst arrangements are being made out of view of the enemy for the real one to be made elsewhere in the greatest possible force, generally upon the other flank—your reserves being posted so as either to pursue, or to check the enemy and cover your retreat, should your grand attack be a failure.

For infantry attacking infantry armed with breech-loaders, there can be only one good formation. The tactics which served our purpose in the days of the old musket are utterly unsuited now for war. This is generally believed. It is high time, therefore, that some decision should be arrived at, and, whatever it may be, that our drill should be altered accordingly. The mode of attack I would propose is that in a loosely-composed line. From the works lately published that describe, not the original plan of attack, or the initiatory formations, but what actually took place in the recent onslaughts of infantry against infantry, we learn that the Prussian front line with which they carried positions was simply an agglomeration of skirmishers, it having been constantly reinforced until it had assumed sufficient consistency to be used for charging. The days when successively deployed stiff lines of infantry could advance as we did at the Alma are past. In lines where the touch—to which our old-fashioned drill-masters attached so much importance—is maintained, it is impossible to have either the flexibility or the quickness that is now indispensable, so as to reap the

utmost advantage from the gentlest undulation of the ground, and with a view to getting rapidly over it from one sheltered spot to another, until at last you close with your adversary.

If we inquire into the condition in which the Prussians really were after a successful attack, and when they found themselves standing victorious upon a well-contested position, we find that companies, battalions, and even brigades were to be seen mingled together without order; we learn that confusion followed as a matter of course upon these attacks in loose order. Let us learn from these lessons. Having recognised the necessity for attacking in this fashion, let us set to work at once and endeavour during peace to organise and regulate that confusion—let us practise that disorder until we have reduced it to order, and have established a system thereon following well-understood rules.

The disorder resulting upon infantry attacks during the recent war is mainly owing to the want of harmony between the regulation tactics of the armies concerned, and the tactical requirements of this age of rifled breech-loaders. Sufficiently radical changes had not been made in their drill formations before the war, and consequently there was ever an endeavour when in action to make circumstances fit into their established manœuvres.

It is difficult to say if we have at present any regulations for tactical operations, but whatever ideas regarding practical fighting that our Field Exercise book does contain, are based upon our Peninsular

experiences. The student of military history knows how inapplicable such rules must be to warfare at present. To adhere to them is to court defeat; but should we succeed, as the Prussians notably did in 1866, from the individual intelligence of our men and subaltern officers enabling us to rise superior to, and to disregard regulations, it can only be at a heavy cost.

Let us hasten, therefore, to lay down in our drill-book rules for fighting that shall be in accordance with the requirements of war as now practised. Unless we do so, and have to encounter European troops, we shall certainly fail; or if at the moment of action we discard our existing rules and win, it can only be with those fearful losses that invariably attend in war upon want of system, upon disorganisation, and upon the confusion resulting therefrom.

A skirmishing line, to be effective, should have about 40 or 50 men to every 100 yards, the men working together in squads of tens or dozens. Our present mode of skirmishing, as is indeed all our infantry drill, is based upon the theory that we should be at all times ready to receive cavalry by forming square. Infantry have now nothing to dread from cavalry, and the thinnest line of skirmishers on foot can now hold its own against the finest horsemen.

The supports which were formerly posted in rear of skirmishers to protect them from cavalry, are no longer required for that purpose; their *rôle* henceforth will be to reinforce them, their place being filled by other supports sent from the rear with the

same object. The line of skirmishers must in future be the line of attack. Formerly it cleared the way for the attacking lines or columns in its rear, but now it is in itself the real and only line of attack.

It is advisable that of each battalion detailed for the first line, one-third or one-fourth only of each company should form the original line of skirmishers, the remaining two-thirds or three-fourths being in two or three lines of supports in rear, and also formed in open order, but somewhat less extended than the skirmishers, and closing on their centres whenever the ground afforded shelter. Unless this plan is followed when the first or second line of supports is pushed forward into the skirmishing line, there will be a most confusing mixture of companies and battalions, entailing disorder. According to our existing organisation, a battalion in the field is to consist of eight companies of about 120 men each. A battalion is ordered to advance upon the enemy's position; let us consider how the objects aimed at can best be accomplished, and the system of drill we should therefore institute.

The right section of each company goes to the front, and at a steady pace extends about 50 or 60 yards into skirmishing order, the whole skirmishing line of the battalion being about 450 or 500 yards long. At the distance of about 150 or 200 yards in rear of it should be the first line of supports, formed of the second sections of companies, also in open order, but a little less spread out, so that an interval might be maintained between each; the third and fourth sec-

tions formed, according to the nature of the ground, at 250 or 300 yards in rear of the second. Each battalion in the front line would thus occupy, at the beginning of an action, a space of about 500 yards in breadth, and of about an equal depth.

Upon this first line in this formation would fall the brunt of the fight. The men composing it should realise their true position, ignoring their preconceived notions of skirmishers' duties. There cannot be in future any "clearing the front" of skirmishers to allow "*the line to advance*;" henceforth it will be for the skirmishers themselves to go forward. They will have the double duty to perform of sweeping away the enemy's skirmishers, and of charging his formed lines afterwards.

There is a manœuvre in our drill-book, which at every field-day is practised as the pride of our light infantry, which should be at once abolished. I mean the "relief of skirmishers." Men sent out skirmishing must henceforth feel that there is no relief for them, that they will certainly be reinforced as circumstances may demand, but that their true business is to push on—push on—until they have seized the enemy's position.

The second line of infantry should be formed in a line of small handy columns 300 or 400 yards in rear of the rear line of supports of the first line. Each of our battalions might with advantage be formed into four columns, each column being of two companies at full interval. It is conceived that a line so formed will have the greatest pliancy, and be best

enabled to reap every advantage from the cover afforded by the ground.

As we have two brigades in each division, one should be in the first, the other in its rear as the second line.

The reserves (consisting of about one-sixth of the whole infantry) should be posted wherever they are required, care being taken to have them screened from view. Their formation must mainly depend upon the amount and description of cover to be found for them. The just perception of where your reserves will probably be most required, is a necessary qualification of a general. Bazaine, on the 18th August 1870, evinced a fatal ignorance of his profession in this respect. Had his reserves been then posted within supporting distance of his right, the result would have certainly been a drawn battle.

Let us now assume that the first phase of the action has been fully developed, and that the false attack of the mounted infantry, supported by cavalry and by horse-artillery on the enemy's flank, has so made itself felt that he has detached largely to reinforce it, whilst he is at the same time gently pressed with a determined front attack along his whole position.

It has been arranged to attack, say, his right flank. Positions should be sought for opposite it for about one-third of your guns, from whence you can pound it well without interfering, or at least interfering as little as possible, with the infantry attack which you have prepared, out of his sight, to launch against him. If his right flank rests upon a village which he holds,

your guns must by their concentrated fire shake his possession of it, whilst your front line gradually extends round its exposed flank. Two-thirds of your mounted infantry being engaged on the false attack on the enemy's left, the remaining third, with cavalry supports, can be used with great advantage in the real attack, for its great mobility will enable you to make a wide turning movement with it.

No matter whether the flank to be attacked rests upon a village or is in the air, it must be attacked by a line of skirmishers and their supports, formed as already described for the first line generally.

From the first moment of what we may call the second phase of the action, when the real attack has been initiated, a steady heavy pressure must be brought to bear upon the enemy's right, and a gradual but steady extension of your skirmishing line to the left must be maintained. Immediately as your line of skirmishers is brought to a standstill, the first line of supports must be pushed on, the same being done when necessary with the second and third lines of supports, their places being supplied by the main second line pushed on as near the front one as possible. It is to be hoped that under the influence of the concentrated artillery-fire plying almost exclusively upon his troops, not upon his guns, and the lateral pressure of the skirmishing line upon his flank, that a serious impression would thus be effected, and that every chink of his armoured line would be searchingly probed by this skirmishing pressure brought to bear upon his front and partially on his flank, until some

weak points were discovered and taken advantage of by the skirmishing line charging, having been in fact impelled forward by its own weight, and the pressure of the troops behind it.

Two phenomena have been observed in recent infantry actions—the great desire of troops supporting skirmishers to push forward into the front line, and of the skirmishers to extend and overlap the enemy's flank. Supports find they suffer severely, and hope to gain increased protection by pushing forward into the front line; so the front line, notwithstanding its losses, really increases in weight as it advances, provided it be well supported; and the natural result of such increased strength is a desire to thin the line by a portion pushing on nearer the enemy. The advance must be made by spasmodic charges of small groups of men running at full speed some 20 or 50 yards to the front to seize some little point of advantage. One group, once established under cover in advance, is soon followed by others, until the whole line has got so much nearer the enemy. This manœuvre must be repeated until the position of his main body is approached within charging distance, when the bugles sounding the charge, the whole line of skirmishers must rise together, and with a shout fling themselves upon the enemy.

It used to be said of us that we were the only nation that could fight in a two-deep line. In such a formation we charged and overthrew Napoleon's finest troops. We have now to go a step farther,

and to teach our men to charge with the bayonet in skirmishing order, and to trust that the same pluck which enabled us during many consecutive years to annihilate by our line charges the troops that crumpled up the armies of Austria, Prussia, and Russia like so much waste paper, may enable us henceforth to do the same by our superior skill as marksmen, and by the irresistible dash of our skirmishers.

It is in moments succeeding these infantry charges that small bodies of cavalry can be used with effect in preventing batteries from escaping, and by charging, and threatening to charge, the routed infantry, to keep it on the run, that at last, demoralised and incapable of resistance, its capture by the cavalry becomes easy.

One of the greatest talents that a general can display is that of so arranging his formations in conformity with the scene of action, that he shall have upon these decisive occasions, and upon the decisive points, an ample supply of fresh troops to let loose upon the enemy to prevent him from rallying, and for the purpose of gathering that harvest of guns and prisoners which should follow success.

The artillery, which had kept up an incessant fire upon the point to be attacked as long as it could without danger to its own infantry, should, when unable to fire any longer, remain unlimbered, and ready to reopen should the attack fail.

Whilst upon this subject, I may mention that although many of us are wedded to time-fuzes, now that they have been brought to such perfection, it

is a subject that should be considered from a general point of view. Accidents will occur, and, with the best time-fuzes in the world, some shells will occasionally burst too soon. In firing over the heads of infantry, one shell bursting short amongst the men tends more to demoralise them than fifty shells from the enemy bursting in the same place would do. The confidence of infantry in their artillery, which it is most essential to encourage, is ruined by one or two accidents of that nature. In firing over infantry, percussion or concussion fuzes should always be used.

(d.) Mode of Combining and Employing the different Arms for receiving the Attack of an Enemy.

Let us assume that our conclusion regarding the mode of combining the arms for attack is correct, and that the enemy will, in attacking you, act in accordance with those views.

It has been shown that henceforth offensive actions will begin by a heavy artillery-fire on the part of the attacking side. The arrangements of the general acting on the defensive must therefore be made with a view to meeting it.

It can be met either by artillery-fire alone, by the musketry-fire of skirmishers, or by a combination of both. Of course, the last named will be the most efficacious, but it will only be possible when the position taken up for defence affords such a command over the ground in front of it that your gunners can fire

over the heads of your skirmishers upon the position the enemy must occupy with his artillery.

If you can do this, of course you delay the enemy's attack considerably; for if you can bring an effective musketry or mitrailleuse fire to bear upon the position he is about to take up with his artillery, he cannot presume to place it there until he has succeeded in driving your skirmishers away to at least 900 or 1000 yards from it—and this light-infantry contest ought to cost him time.

If your position does not enable your artillery to fire over the heads of your skirmishers, it would be bad policy to depend upon skirmishers alone for preventing the enemy from getting his guns into position; for as it may be assumed that your skirmishers will eventually be driven back, there would inevitably be a period when there would be no fire of any description playing upon those positions, and he would thus be afforded a quiet opportunity for securely establishing his artillery and bringing it afterwards to bear upon you as a whole, instead of by instalments of one or two batteries at a time, as it ought to be your endeavour to force him to do.

The period here alluded to is when your skirmishers, having been driven back too far from the enemy to bring any effective fire upon the positions where his guns are coming into action, are so near your own line that they screen your guns and prevent them from opening. Although it may not be possible to maintain an artillery-fire over the heads of your skirmishers everywhere along the front of a position,

still, under most circumstances, there will be facilities for using light infantry for annoying the advance of the enemy, and for delaying and punishing him whilst deploying. A well-organised force of mounted infantry would be invaluable for such work, having the mobility of cavalry, with much of the effective fire of infantry.

One of the great objects to be aimed at, therefore, in selecting a defensive position, will be, that whilst your artillery is posted so that all its material is as much as possible screened from view, and the guns sheltered from fire, a sweeping fire can be maintained over the positions which your opponent must occupy with his artillery. *Your* opportunity is when he is bringing up his artillery. Your gunners know the exact range, and, being in position, ought then to inflict great loss upon him ; for, with the best-organised artillery, it is no easy matter bringing guns into action under a heavy and well-directed fire. Horses are killed, limbers are blown up, carriages are smashed, entailing confusion ; and after the guns have been unlimbered, the tendency is always to fire in a hurry at first, so as to reply as quickly as possible, and it takes some time and several shots to find the range. All other things being equal, under such circumstances you ought to open the fight with a decided advantage on your side.

In taking up a defensive position, one must never forget for an instant that any plan solely based upon holding everywhere along your front a passively defensive attitude must be bad.

No scheme of defence can be good that does not provide for a counter-attack at some part of your line, and at some period of the action ; but it is only real military genius that can decide properly upon the *where* and the *when*. It frequently happens that even an ill-planned counter-attack is of great service, for no such manœuvre, if well conducted, can fail more or less to embarrass an attacking enemy. The combination of the several arms must therefore be planned keeping this object in view.

There will occasionally be battles such as Waterloo, where the enemy, having reached your position, defers attacking you until the following morning. He will then naturally avail himself of the night for getting his guns into position, and will thus begin the fight in the morning with you upon equal terms. As a set-off against the advantage he thus secures, you have had so many more hours to complete your field-works and other defensive operations.

Although the increased range of guns and small-arms has in many ways been in favour of the defensive side, as long as it contents itself with a passive defence, still it takes away from it many chances which were formerly frequently obtainable by a sudden return to the offensive during an engagement.

A serious attack had been made upon you, and had failed. The enemy were for the moment in temporary disorder, and the fleeting opportunity was seized upon by the skilful commander for assuming the offensive, and for charging him home on that particular point of the field. His batteries of short-ranging smooth-

bores having been pushed forward as near your position as possible, were liable to capture, and from being so close to the engaged infantry, were generally unable to afford much assistance to the discomfited troops streaming back upon them, and preventing them from opening without firing into their own people. Now it is different. Guns must in future be well out of rifle-range, occupying commanding ground, if such is in the neighbourhood, but at any rate too distant to be captured by any partial, however sudden, offensive movement on the part of the defensive side.

As stated in writing on offensive operations, it is desirable that a defensive position should admit of the artillery being so posted in rear of the infantry as to be able to fire over it whilst engaged. From a third to one-half of the batteries should be held in reserve until the enemy's attack has been developed, epaulments having been made at all places where it was likely that guns would be required. A defensive position which admits of troops and guns being moved close along its rear in a lateral direction, without being under the enemy's fire, or even without his being able to perceive the movement, secures to the defensive side an immense advantage.

The great actions of the recent war teach us but little as regards tactical combinations. In some of them the French took up admirably chosen positions, but as a rule did not develop, as it were, their full defensive capabilities. The traditions of their army may have perhaps had some-

thing to do with it. They had been always accustomed to attack, and they could not reconcile themselves to the idea of defensive arrangements; or perhaps, from having their attention always directed to offensive operations, they knew not how to draw from even the best-selected positions all its defensive capabilities. The spade and the pick-axe, the best allies of a defensive side, were mostly neglected in a remarkable manner by the French, or only very partially made use of upon any occasion. Had the right of the French position beyond St Privat been well strengthened by a few redoubts connected by shelter-trenches, and their guns well sheltered from fire by epaulments (the reserves being, as already stated, within supporting distance), the 18th August might now be reckoned amongst their most brilliant anniversaries. The batteries and shelter-trenches constructed near Flöing were badly placed and poorly executed. As regards the defensive positions occupied by the Prussians around Metz and Paris, no lesson is taught thereby. From after the first days of Forbach, Saarbrück, &c. &c., the Prussians assumed towards their enemies that air of military superiority which marks our bearing towards Eastern nations. From the first they threw down the gauntlet to their adversary, and whenever he dared to pick it up—nay, even to appear as if he intended doing so—they went straight at him, despising the support of field-works. By skilfully-combined strategical operations, they succeeded in concentrating overwhelming numbers on decisive points, striking thereby such crush-

ing blows, that their opponents reeled back demoralised and dazed. The moral supremacy thus gained, it would appear by the manner in which they designedly neglected the field engineer's art, they maintained throughout the war by their ostentatiously-displayed readiness at all times and places to cross swords with their enemy.

The French method of occupying the positions they took up, seemed based upon an equal distribution of troops along their front, according to the extent to be defended. This is reducing the noble science of war to the level of a duel, where the adversaries fight upon exactly equal terms. In war such a policy is suicidal, unless your opponent promises to follow it also.

It is to be presumed that the army taking up a defensive position is numerically the weaker side. The quality of the troops being equal, if your inferiority of numbers is excessive, the sooner you retire from the field and make peace the better. This must ever be a calculation to be resolved specially upon each occasion, for so many and such a variety of circumstances must ever form part of it, that it is impossible to lay down fixed rules on the subject. Assuming, however, that although inferior in strength, it was thought that by skilful combinations, and by taking up well-selected positions, it would be possible to hold one's own, what should be the character of the operation? It should be to force the enemy to divide his forces, so that you, perhaps acting upon interior lines, by skilful combinations should meet him upon the

day of battle with at least equal numbers. Tactics is a sort of photograph of strategy, so closely do the same principles run through both, although the former is a great invariable science, the same to-day as it was in the days of Hannibal, whilst the latter is influenced by almost every great modern discovery. Still, the one great object of tactics, as of strategy, must ever be to have a preponderating strength upon the decisive point. In order to be so in any given position, especially if you are numerically the weaker, it will be necessary to occupy some portions of the front with small numbers, and to counteract this weakness either by seeking aid from the natural strength of the ground itself, or by the construction of field-works.

It may therefore be assumed, that in all well-conceived defensive actions, the pick and shovel will henceforth play an important part, although the late war affords few instances where their use was much developed.

Few armies can ever have a better opportunity afforded for fighting a defensive action to advantage than was presented to the French by the daring combinations of the Prussians at Sedan. I know of no similar operation in the history of the world. Napoleon's success at Ulm was, up to 1870, regarded as unique, but it sinks into insignificance in comparison with the capture of a great French army.

Von Moltke was successful. He had accurately gauged the swaggering and self-confident ignorance of the generals opposed to him. He had already had several good opportunities of feeling the pulse of the

troops they commanded. He felt that the iron point of demoralisation had entered into the heart of their army, and, like a foul cancer, had already sapped away its vitality and strength; and he accordingly believed himself justified in having recourse to an operation without a parallel, either for its daring conception or for its ultimate success. It is only great soldiers who can distinguish between rashness and warrantable daring. If the numbers and positions had been reversed at that period of the war, for the French to have attempted what the Prussians accomplished on the 1st September 1871 would have been madness, and must have ended in destruction. The superiority of numbers that the Germans possessed on that day could not alone, *cæteris paribus*, justify their plan of attack, depending as it did upon great wide turning movements requiring the utmost nicety of calculation as to time, and upon the confident assumption that the French would not avail themselves of the advantage which their position afforded them for assuming the offensive. Had a great general commanded the French at Sedan, he would have taken up a retaining position with a small force, resting one of its flanks upon the works of the place, whilst with the remainder of his army he would have fallen upon either of the detached forces that had crossed the Meuse, one above, the other below, Sedan, the corps at Mézières taking an important part in the operation. The position taken up at Flöing was untenable as soon as the enemy could enfilade it from the left bank of the river.

It is contended that no direct attack, even when ably made by all three arms, should ever succeed in turning out a line of infantry posted behind a shelter-trench, in front of which there was no cover for any large body of the enemy within a couple of hundred yards. Whenever such an attack succeeds, it may be safely assumed that there is a great difference in the quality of the infantry on the opposing sides.

Unless there is some great peculiarity of topographical features in the centre of your position, rendering it peculiarly weak there, it may be assumed that the serious attack will be made upon either one or both your flanks. Although the latter is only possible in a serious manner when your opponent possesses an immense numerical superiority, still you may safely reckon upon having them made, in order to distract your attention from the real point of attack. If your enemy is much the stronger, he may attempt a wide turning movement by one flank, a manœuvre which in 1866 and in 1870 was so successfully practised by the Prussians. You must therefore make arrangements to meet a serious attack upon one flank, and a false one upon the other. The nature of the position you occupy, the approaches to it, and the distribution of the enemy's army in the theatre of war, will generally enable you to fix with tolerable certainty the flank where the serious attack will be made. Having well considered the respective strength of the opposing armies, the distribution of the army advancing to attack you, and the nature of your position, you must determine upon where you will make your counter-

attack, and in what manner you will effect it. If Bazaine on the 18th of August 1870 had massed his cavalry on his right, where the ground was as if made for that arm, and having strongly intrenched St Privat, extending his right to Roncour and to Montois, both being also strongly intrenched, having a strong reserve of infantry and artillery between those two villages, he would have been in a position to have struck the Saxons and the Prussian Guard such a blow as, it may be confidently asserted, would have given a different turn to affairs. Instead of doing so, he appears to have occupied the whole front of his position with a similar number of men to each 1000 yards, and to have kept his reserves massed in the centre. He ought to have seen that he had nothing to fear on his left, and that the real battle must be fought out on his right. The French troops have to depend upon their Engineers for intrenching tools. In the Prussian army every regiment has its own, which, with its ammunition, accompany it everywhere. The relative value of the two systems was well shown on that day. Canrobert, whose troops held St Privat, could do scarcely anything towards putting that place in a state of defence, and in constructing shelter-trenches in its vicinity, because all the tools were with the Engineer park that was amongst the confused mass of carriages in the ravine behind the centre, where the tools could not be got at. Late in the evening, when the French were beaten out of St Privat, the Prussians having occupied it set to work immediately, and having their tools with them, threw

up infantry cover, so as to secure for the night the position they had won.

There may be a question as to the use of pick and shovel by the attacking side, but there can be none as to its great value when acting on the defensive. As already said, I believe that in future battles will be fought only by infantry in loose, or what is commonly called skirmishing order. The first principle of skirmishing is the use of cover. It has not been found that teaching men its value, and the best mode of utilising it, has detracted from their soldier-like qualities. The common arguments against shelter-trenches must therefore fall to the ground. Although it is out of the question to imagine that the already over-weighted foot-soldiers can carry on the march any intrenching tools, still, during a day's battle it is believed that the light little picket-shovels, lately introduced in England, might be distributed largely amongst at least the first line of infantry with the greatest advantage.

The defence of the threatened flank can generally be best secured by shelter-trenches, and, if there is time, by more fully developed works. The same remark applies to those portions of a position where it is intended to act strictly on the defensive, and to retaining forces generally. During the late war neither side has added to our knowledge of the use of pick and shovel in actual battle. All the world understands the use and value of field-work in the old-fashioned acceptation of those words; but the practical development of shelter-trenches is yet to be attained, and its

adaptation to actual war when first practised in earnest will surprise the world as much by its astounding effect as did the breech-loading rifle in 1866. Let us hope that we may be the nation to do so.

The days when masses of cavalry could be effectively used in action are past; but notwithstanding the experience gained by the charges of French cavalry near Flöing, still there will be constantly along the front of a long position opportunities for a dashing cavalry officer. Infantry, when repulsed, must ever be more or less susceptible to the influence of a well-timed charge of horsemen upon their flank. In order to effect this it is essential that the cavalry be at hand when wanted—and that can only be the case when the position affords cover for a regiment or a brigade here and there. In determining how cavalry can be best made use of, the first point to be considered is, that the ground in front of where you post it should be suitable, and that shelter, not only from fire, but from view, should be afforded by it.

Your flanks should be watched by detached bodies of cavalry, who should certainly patrol the country on each side to a distance of at least 12 miles, protecting you from surprise, and disputing the ground with any force sent to operate upon your flank. Mounted infantry, or at least cavalry taught to fight on foot, are invaluable for such work.

The general combination of the three arms in a defensive position may therefore be described as, from a half to two-thirds of the artillery distributed along

the rear of the infantry on commanding ground, the remaining guns being held in reserve behind points where the serious attacks may be expected—the cavalry covering the flanks, and protecting them from surprise by its detached parties. If the ground is favourable, the cavalry—and mounted infantry, if there is any—may also be employed in harassing the enemy during his advance, opening fire with horse-artillery and mitrailleurs upon him when favourable opportunities offer; and so retard his progress by compelling him to deploy in force to drive you from your temporary but well-selected positions. The cavalry not required for these duties will be distributed along the rear of the position, according as shelter can be obtained for it in positions from whence it can act effectively when required, taking care that a large proportion of it, and of your mounted infantry, may be available for pursuit in the event of victory.

The infantry will be, as heretofore, in two lines—the front one to be deployed two deep (but the men to have more elbow-room than is allowed by our regulations), and to be well covered by hedges, ditches, or by shelter-trenches, all villages and farmhouses coming within the line to be strongly intrenched. In defence of strong ground, infantry might be safely formed in single rank; so much so, that the general use of the rear rank is a question now for serious consideration. In many circumstances it might with advantage be placed at some distance in rear of the front rank, to which it would then be a line of support. Lines in single rank can easily find cover; whereas jamming men together, shoulder to

shoulder and toe to heel, in two ranks, increases not only the difficulty of obtaining effective cover for them, but multiplies the loss of life when they are exposed to fire.

Wherever small parties of skirmishers can be used in front without interfering with the fire of your guns, they should hold their own as long as they can in well-chosen positions. If the country in front of your position is broken, and suited for skirmishing, of course it must be disputed field by field; but should it be unenclosed, the use of skirmishers at any distance from your line of defence is not to be recommended. If there is no cover for your assailants within 400 yards of your front line, and that is sheltered from fire, your best policy is to allow them to come at you. You should destroy them, as the French did the Prussians when they advanced at first to attack St Privat on the 18th August 1870. Hence, in future, an open space clear of all hedges or broken ground that could afford your assailants cover, is of all things to be desired for the front of a defensive position.

The second line of infantry, at about 300 or 400 yards in rear of the first line, must be distributed in columns or partially-deployed lines, according to circumstances and the nature of the ground. The natural strength of a position at some places may be so great that the second line need not there be more than one-half the number of battalions constituting the first line in its immediate front. About one-fifth or one-sixth of the infantry should be held in reserve, and

distributed between the points where the enemy's decisive attacks are to be expected and that where it is intended to make a counter-attack upon him. In a position of great extent, the selection of the points where the reserves are to be posted is a most serious affair. Many a battle has been lost from the reserves being ill placed. As already alluded to, Bazaine, in the battle above referred to, posted his reserves at a part of his position where they were useless, and unable to support his right flank, where the fate of the day was to be decided.

As laid down in discussing the tactics of attack, the action of artillery in defensive operations will in future be untrammelled by the movements of the other arms. Its fire should, in the first instance, be directed upon the enemy's guns as they are brought into action; but when his cavalry and infantry appear, it should be concentrated upon them without cessation. By smashing his guns to pieces you obtain a great advantage, but it is only by destroying his infantry that you can gain a victory.

I have already at several places laid much stress upon the advantage of being able to maintain your artillery-fire over the heads of your infantry. Before concluding the subject, I have to remark that it would be well to accustom our foot-soldiers to manœuvring with calmness whilst a fire of blank shells was kept up over their heads. Even if a few lives should be accidentally lost in doing so, they would be well expended if your infantry acquired perfect steadiness under those circumstances.

The mitrailleuse of some sort or other will, it is believed, henceforth play an important part in defensive operations, enabling certain portions of a position to be thinly occupied by troops, whilst the important points are strongly held. If the Russians at Alma, for instance, had had, say, 10 Gatling guns distributed along their front, the Allies could not have forced the position as they did. A mitrailleuse playing upon the ford of a river when the range was well known would most certainly prevent all passage by it. The French, in introducing this new weapon into their army, placed it upon the same footing as artillery, and formed batteries of them. This was ignoring the use and effect of the weapon. They must be distributed singly, having the lightest possible equipment, and the fewest possible number of men and horses with each. Cover can always be obtained for them; and when well hidden, such weapons, ranging, as they certainly will by-and-by, up to 1500 and even 2000 yards, will henceforth be opponents of no mean order for the best-organised and best-served artillery.

The general use of mitrailleurs will, it is believed, greatly increase the value of the field-engineer's art, rendering the creation of artificial cover more than ever necessary for infantry and artillery when in action; and the more that modern inventions, and the changes in tactics resulting therefrom, develop the use of the pick and shovel, so in direct proportion is the defence strengthened at the expense of the attacking party.

In conclusion, I have to make the following

general remarks upon the tactical formation of the three arms, and regarding changes therein which I believe should be made the subject of new regulations.

The use of cavalry in imposing masses as already stated, will, if ever again tried against
Cavalry. troops armed as ours are now, be the abuse of that arm.

I believe that in open countries charges of a few squadrons of cavalry upon broken and demoralised infantry may yet be possible, and when possible good effect may be expected from them; but such opportunities will be exceptional. Previous to the charge, the cavalry must have been well screened from fire and view, and it must fall upon the infantry suddenly and unexpectedly, having had but a short distance to gallop before getting into collision with the broken infantry.

These cases will therefore be few; hence the proportion of highly-trained cavalry to infantry in an army may be greatly reduced. The importance of mounted troops — soldiers on horseback — is, however, as great as ever. No army can be properly protected from surprise, when on the march or in position, unless it is well covered by patrols and detached corps of mounted men having the mobility of cavalry, and the fighting efficiency of good infantry skirmishers. As this mounted infantry can be organised upon the breaking out of war by selecting infantry soldiers that can ride for the corps to be raised, no establishment whatever need be kept up for it in

time of peace. The system of drill to be pursued, and the mode in which such troops can best be used, should, however, be laid down in regulations.

The Field Exercise book should, I think, be remodelled at once, not so much by instituting a new system of drill generally, as by wiping out from it the drill-sergeant and barrack-square peculiarities that render our present system of drill unsuited for war.

All our movements are made upon points : now the use of such points on the day of battle would be impossible. We therefore during peace pursue a system of movements that we could not practise in presence of an enemy, and we rely for executing them accurately upon aids which we are necessarily deprived of when those movements have to be made for a real purpose.

The movements that are performed in war are few : when those are practised in peace, they should be carried out as nearly as possible in the same manner as they would be in presence of an enemy. The foreign officers who had recently come from the actions of a great war, must have laughed to themselves as they saw our infantry, during the autumn manœuvres, deploying under an imaginary fire with a slowness and attention to dressing that was more suited for the stage than for actual warfare.

I believe that the old theory of the "touch" should be at once abandoned, and every man when moving in line should be allowed a space of at least 30 inches in width : the interval between the front and rear

TABLE IV.

<u>Nature.</u>	<u>Advanced Guard.</u>	<u>Use.</u>
1 Troop L. Cavalry.		} For Vedettes and Patrols.
1 Troop L. Cavalry.		
1 Squadron L. Cavalry.		
2 Guns R.H.A.		In support.
2 Squadrons L. Cavalry.		In reserve.
2 Companies Rifles.		
4 Guns R.H.A.		
Troop Divisional Cavalry.		In support.
4 Companies Rifles.		
Section R.E. Company.		
Field-Battery.		
Troop Divisional Cavalry.		In support.
1st Regiment of Brigade.		
1 Squadron Div. Cavalry.		For Patrols and communication.
	<i>Main Body</i>	
2 Squadrons Div. Cavalry.		
2d Regiment of Brigade.		
Field-Battery.		
3d Regiment of Brigade.		
Ammunition Reserve.		
Field-Battery.		
2d Brigade.		
Non-Combatants.		

ranks to be three yards when on the move. This would enable movements to be made over rough ground with greater ease, and with greater quickness. The improved nature of the arms now in use would amply compensate for what I may therefore call the imaginary weakness caused by this extension.

Battalions in line should each march by their own centre.

In all deployments, changes of front, &c., greater individuality should be given to companies, each captain being allowed to move his company into the new alignment by the shortest possible route, and in his own way.

The formation for attack in loose order, already roughly described, should be reduced to a system, and published as a manœuvre to be constantly practised.

It is considered necessary to teach soldiers their facings and the goose-step in small squads, so that instruction may be most effectively given to each individual; but we are satisfied to teach men the art of skirmishing, now the most essential knowledge soldiers can possess, by companies or battalions, and the important duties of outposts by whole brigades. If it is advisable to teach the necessary but unimportant duty of turnings to the right or left to a few men at a time, how much more advisable is it that the great art of fighting on the day of battle, and of affording protection to any army previous thereto, should be imparted to individual soldiers? I believe it to be impossible to convey such instruction in any other way.

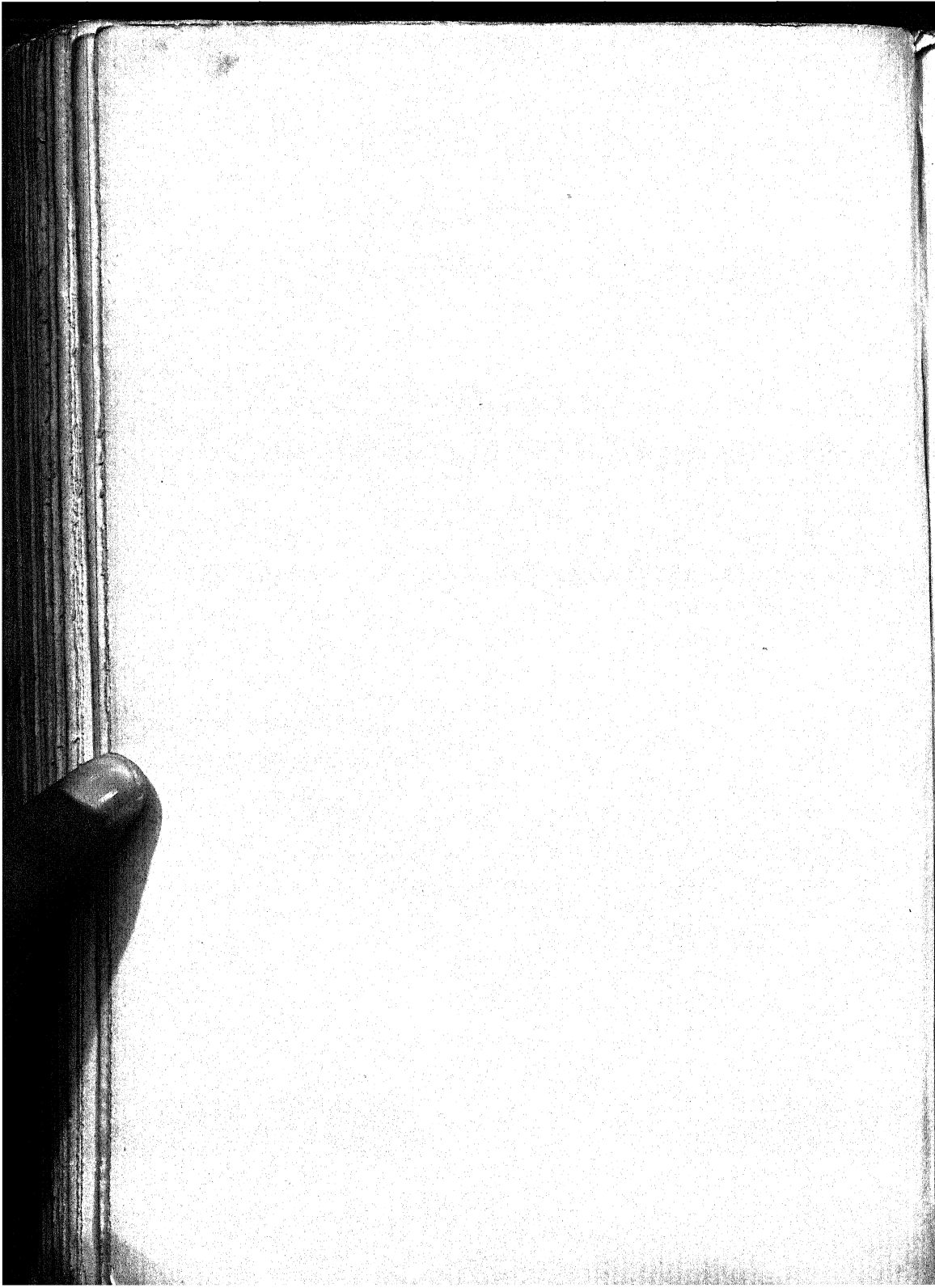
Since the recent orders of H.R.H. the Duke of Cambridge, releasing artillery from the
Artillery. trammels formerly entailed upon its movements, the tactics of this arm are now in the hands of the officers of that corps. It may be confidently said that there is but little room for improvement in our artillery. Its movements in action will henceforth be fewer than formerly, and the position it takes up must be removed from the effects of musketry-fire. With our present long-ranging guns, the accurate measurement of distances is more essential than ever ; and when a battery comes into action, a few minutes spent in ascertaining the range will not be time thrown away. It is necessary that each gun should carry its own detachment, and it is for consideration whether the off-horses might not carry men with that object in view.

The old superstition against ever posting one single gun in any position should now be authoritatively abandoned. Many little knolls or other cramped spots, on the borders of woods, &c. &c., are to be found in most positions suitable for one gun, and where it would be impossible to have two guns in action, but from whence a most effective fire could be brought to bear upon an approaching enemy. Guns in action will henceforth, owing to their great range, be so far removed, as a general rule, from the enemy's infantry and cavalry, that there will be no danger of their being captured by a sudden rush made upon them ; and for this reason the use of single guns in action under these exceptional circumstances should be recognised.

As a rule, it may be accepted that general actions will henceforth be fought along lines of railway communication. A railroad will therefore very frequently intersect, at nearly right angles, the positions occupied by the opposing sides. I believe, therefore, that special railway carriages, having guns mounted on them, should be prepared for bringing heavy artillery into action along the line of rails. These carriages should be provided with iron shields, completely protecting the gun and gunners from the fire of ordinary field-pieces. Folding shields should be attached, so that when the carriage was run forward into action, these shields might be let down, their outer edges resting on the ground at an angle of about 45° . These carriages should have the power of locomotion by means of a crank to be worked by men, so that, having been taken by an engine as near the scene of action as engines could go with safety, they might be moved forward to the required position.

A few such carriages pushed to the front, being proof against fire, might, it is humbly submitted, have a great influence upon the result of an action by the heavy shells their guns would be able to rain upon the enemy's troops and artillery. The experiment was tried in a very imperfect manner by the Southerners at the battle of Mechanicsville, during the seven days' fighting round Richmond, and the result was satisfactory.

At a large proportion of the actions fought lately in France, heavy shell-guns might have been thus used with great effect by both sides.

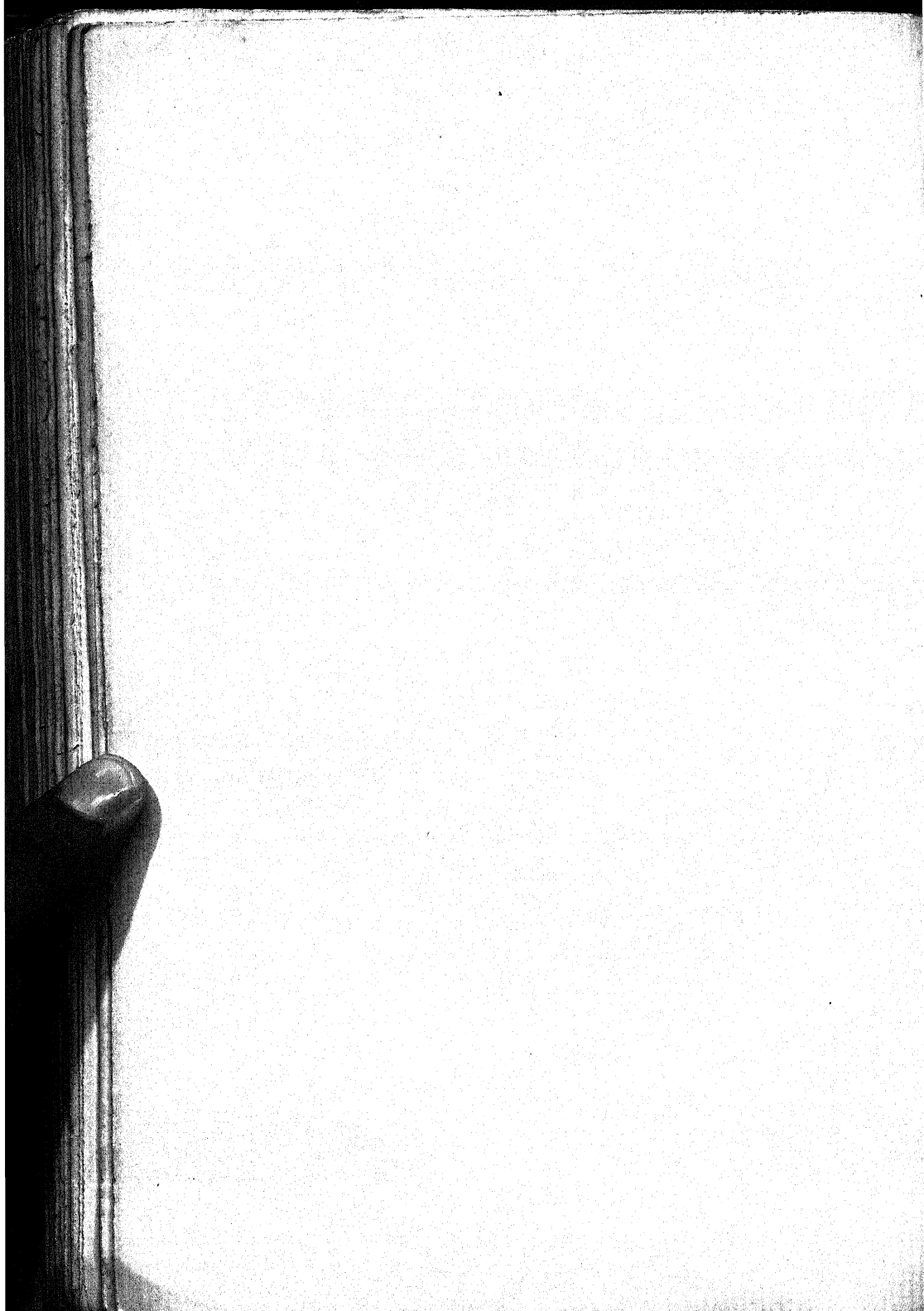


ESSAY V.

"NIL DESPERANDUM."

BY

GENERAL J. R. CRAUFURD.



ESSAY V.

THE patriotic and generous act of his Grace the Duke of Wellington, in offering a prize for the best military essay of those written upon the plan which has been promulgated in the 'Times,' cannot but incite all English officers attached to their profession to examine and develop, by reading and reflection, the vital questions which are there set forth for their consideration; and especially the leading one, intended to furnish the title of the essay—namely, "The System of Field Manœuvres best adapted for enabling our Troops to meet a Continental Army."

The notice does not indicate to us upon what theatre of war the contest is to be imagined as taking place, nor the enemy against whom an English army might have to manœuvre; but it seems probable, from the moment at which the inquiry is proposed, and the state of public feeling at the time, that the case of an invasion of this country is contemplated. As this supposition would lead us to comprehend, in any system of manœuvres adopted, the co-operation of

our militia and volunteer forces, who, although they might exercise a most important influence in their own country, could not be included in our calculations for a campaign on the Continent, some difference would exist in the two cases—viz., that of an English army engaged in Continental warfare, and the same army acting against invaders, with a view to destroy them, or drive them from the country with the least possible delay : and it is to this last case we will specially direct our attention, in considering the best system of manœuvres.

In both cases the enemy's forces may be assumed to have the Prussian organisation; and we will therefore take the *armée* corps of that nation as the military body, which we must be prepared to meet with approximately equal strength, and a similar combination of the different arms. It will be advisable, then, to state in the first instance, clearly and upon the best authority, of what elements it is composed, and in what proportion they are combined in order to complete it, and then to examine the materials and organisation which an English general would possess with which to oppose it. Whether our invaders or antagonists elsewhere may be French or German, the organisation by army corps, two or more of which unite to form an army, will almost certainly prevail. With the Prussians, the permanently-organised body above mentioned forms, as it were, a part of their rational existence; while a recent publication of the ex-Emperor of the French seems to hold the same system up to that nation as a model for the future

reconstitution of their armies, by the extreme care and minuteness with which all the details connected with the formation of an *armée* corps both in peace and war are narrated.

In Prussia, upon the war footing, that body is composed as follows—namely, of 2 divisions of infantry and 1 of cavalry. Each division of infantry consists of 2 brigades, and each brigade of 2 regiments, each of which has 3 battalions in number 1000 strong. In addition, 1 regiment of fusiliers, a more highly trained infantry than that of the line, is attached to the corps, and a battalion of Jagers completes the infantry to its full numbers. The cavalry consists of 2 regiments, 1 of which is attached to each division, and of a division of reserve cavalry consisting of 2 brigades, each being composed of 2 regiments 600 strong. A battalion of pioneers, and a battalion of the train with ambulances, form also a part of the corps. The artillery, consisting of 16 batteries, is distributed as follows—viz., to each division of infantry 4 batteries of 6 guns, making 48 guns for the infantry. Two batteries of horse-artillery are attached to the division cavalry, and there is a corps reserve of artillery which consists of 4 foot and 2 cavalry batteries, making in all 16 batteries with 96 guns. The total force of the *armée* corps is usually counted as about 30,000 combatants.

To meet this powerful body, owing to the comparative weakness of our brigades and divisions at their present standard, an English army corps, consisting as to infantry nominally of the same elements,

would not much exceed one-half the above number; while supposing the same amount of guns to be attached to it as have hitherto accompanied divisions of infantry on service or at manœuvres, to which would be added a reserve of 5 batteries, the total of that arm would not exceed 60 guns, which, even assuming that the other parts of our corps, though inferior in number to their enemy, were yet able to cope with him, would leave us in a dangerous inequality in this most important arm on a day of battle.

The matters specified in the succeeding paragraphs of his Grace the Duke of Wellington's notice, have so long ago been considered and laid down as settled for the instruction of foreign armies, by their higher officers and most able military writers, that the subjects might have been considered as exhausted by them, were it not for the impression now prevailing, and which has probably influenced his Grace—namely, that a new era in war has begun, and that the fresh elements introduced into it may have so profoundly modified the whole system of tactics as to make it desirable again to submit to consideration the subjects comprehended in the lesser heads of the memorandum, and to examine whether these new factors, which so greatly influence modern warfare, may not be found also to change or modify the whole system of our manœuvres, and to affect even the detail of those elementary combinations by which the objects specified under the different headings are attained—objects which under all changes in the nature of our arms must be of the highest importance, and indeed

essential to the existence of an army engaged in the field.

The great cause of change in the mode of carrying on recent wars as compared with those of the earlier part of this century are,—1st, railways, offering as they do means which immensely increase the facility and rapidity with which an army can be concentrated upon given points, and thence moved to the theatre of war; 2dly, the introduction of a very powerful long-range rifled-artillery; but last, and more important than all other changes, is the introduction of the rifle for the use of the infantry, and, above all, of the breech-loading rifle.

Those who have observed the effects of the breech-loader in the different situations of attack and defence, seem to have been irresistibly brought to the conclusion that infantry, though furnished with equal arms, cannot, under the previous ordinary conditions of an attack, be successful against troops using the breech-loader for the defence of a position. A more powerful concentrated force of artillery than was necessary heretofore must first have shaken the solidity of the troops placed upon the defensive before a well-founded hope of success can be entertained. It has been found necessary also, for the purpose of attack, to develop and perfect the action of troops fighting in extended order by higher requirements in the individual and collective training of the troops, and as to the intelligence and activity of their officers; for it seems to be regarded as beyond controversy, that in future the advance in extended order will be

the only reliable means for the successful attack of a position. These two considerations seem to point to an increase in the power and in the number of the batteries attached to infantry, and to a special and more highly trained class of light troops, separated, by the superiority of their attainments in drill and the more skilful use of their arms, as well as by their natural powers, from the infantry of the line.

Having ventured to offer these general preliminary considerations, let us proceed to examine, one by one, as far as possible, the questions of detail proposed in the various paragraphs of the memorandum, reserving the main subject—viz., that of “the best system of manœuvres for enabling our troops to meet a foreign army”—to a later moment, and consider first,—

(a.) *What is the best Mode of Forming a Column of March when Collision with the Enemy may be expected.*

The subject will in some degree necessarily be interwoven with that which forms the purport of the next heading (b.)—namely, “the mode of covering an army when on the march or in position, in order to conceal its movements or obtain information of those of the enemy;” and in endeavouring to develop the numerous details connected with this branch of tactics as concisely as possible, the writer will assume the corps or army concerned to consist of from 20,000 to 30,000 men.

Many foreign works have laid down, in not very

distant years, the best methods of forming columns of march when in immediate expectation of a collision with the enemy, and their instructions for the purpose have been considered suitable to the arms then in use. The present increased range of all firearms will naturally cause an alteration in various details, founded upon that element of calculation—namely, the range of fire of the enemy's firearms, such as the distance to its front and rear to which a column should be secured against its effects. Nor, with the exception of a probable increase in the number and power of the guns employed, especially with an advanced-guard, does it appear likely that any great change from the established Continental systems, which are generally imitated by the English, will be found necessary. Light cavalry will probably be called upon to perform more enlarged and important services, and be freely employed in preceding and covering the march of armies, acting in a more independent manner than heretofore. It will be expected to explore *far* to the front and upon the flanks of the roads upon which a column may be moving, and to obtain early intelligence of the position and marches of the enemy; and the greatest energy and activity should characterise its operations, guided as it must be, in the exercise of these qualities, by a high degree of intelligence on the part of its leaders.

As any engagement sustained by the advanced-guard of an army or corps will probably be of a defensive nature, merely covering and gaining time for the deployment into position of the main body

which it protects, I would suggest, although in the Prussian instructions only light 4-lb. guns are recommended to be employed by the advanced-guard, that heavier calibres* in small numbers might be of service to cover its position, and strengthen the resistance it may offer with a view of gaining additional time; and that, with proper prudence, no serious danger could accrue to such guns from their being sent to the front. Having ventured these observations relative to an arm upon whose technical points its officers are the most competent judges, it is next advisable to consider the composition and order of march, and the instructions which may be best suited for that important part of an army—the advanced-guard.

We will suppose, then, a corps d'armée, consisting of two divisions of infantry with its cavalry and artillery, to be moving to its front against an enemy of equal or superior force, which may be penetrating into the country. In what manner should its advanced-guard be composed? Of what strength ought it to be relatively to the main body, whose movement it covers? In what order should it march, and what would be the instructions for its guidance?

In accordance with the principle generally admitted as correct with regard to the relative strength of the advanced-guard, its numbers should be in inverse proportion to those of the column which it precedes. The stronger the main body, the smaller may be the proportion which the advanced-guard

* The new 16-pounder, weighing $11\frac{3}{4}$ cwt., is a gun which seems calculated for this use.

bears to it. It is said, in a modern work relating to the Prussian army, that in the case of a strong division or of an army corps, we may take one-fourth as the highest proportion which the advance should bear to the whole; while with smaller bodies of troops, one-third of the force would not be considered excessive for this service.

As to its composition, the duties required of it are so important and so arduous, that picked troops alone appear competent to perform them. Newly-raised or imperfectly-trained soldiers could not be expected to meet the requirements of such a service; and only regiments broken to discipline, and to all the changes and trials which military service brings with it, or in some cases imbued with those traditions which, in a small degree, supply the place of long experience, could be looked to confidently for the successful fulfilment of the duties, and the attainment of all the objects in view. When one has had occasion to observe how slowly the rapid and independent action of regularly-drilled light infantry is acquired by soldiers accustomed to act constantly in line, it brings the conviction that only with special and lengthened training do men become fit for the duties of light troops, and that the latter are more particularly suited to form the advanced-guard of an army.

The smallest strength of the vanguard of an army corps may be taken as that of one brigade of infantry, composed as much as possible of light troops. A battery of light guns, together with a half-battery of a heavier calibre, would be joined with it, and two or more squadrons of cavalry, according to the nature of

the country to be traversed. A detachment of Engineers to remove obstacles, open roads, and facilitate in every way the free movements of columns, forms a necessary complement of the force, which should not be encumbered by much baggage, having, however, a few carts always at its disposal; and in this manner is formed that independent advanced-guard, which may precede by some hours, or even by a day's march when circumstances require it, the main body of troops which it is required to cover and protect.

This independent body of troops may be estimated at from 3000 to 4000 men, in order to cover an advancing column of four or five times that number, assuming always that its strength will be kept constantly in its due relative proportion to that of the corps which is to follow it, or to the distance at which it precedes on the march. Its order would be that laid down upon authority in the works I have alluded to, which it may be better here to specify in detail, though somewhat elementary. At the head, a double file of infantry, or of two horsemen when the advance was to be headed by the cavalry, would lead along the outer sides of the road, about 500 yards ahead of the first detachment in close order, which latter might consist, when of infantry, of about two companies. From these last would be detached as well connecting files to keep up the communication with the front, as flankers extending themselves to the same distance on either side of the road as that which separates the advanced files from their supporting body. In addition to these detached files in front and flank, should the nature of the country and the

views of the commander require it, small patrols should be sent entirely beyond the *rayon* of the outlying files. They would be ordered to examine the country, and all objects in it which could conceal an enemy. In an open country, cavalry might extend its range beyond the infantry patrols, and even penetrate to the limit of the section of country in which the march was taking place, obtaining, if possible, a view into the adjoining district.

The two companies in advance will be followed, at the same distance of 500 yards, by the remaining companies of the leading battalion, in rear of which two of the light guns of the battery will march, in readiness to support a deployment, should an enemy be encountered by the foremost detachment. A squadron of cavalry would complete this first section of the advanced-guard. Its main body would follow the leading squadron of cavalry at about 600 yards, one company preceding it at half that distance, and throwing out connecting files to its front. Each battalion, also, of the brigade, will throw out flankers extending in a line of single files to the same distance on either side as those of the leading companies—namely, 500 to 600 yards. A battery of artillery will march in rear of the first battalion, the remaining artillery following the brigade of infantry and the other squadrons of cavalry, closing the march, and furnishing, in conjunction with a company of infantry, the rear-guard.

The march and the proceedings of the advanced-guard are intimately connected with paragraph (b.)

of the notice—namely, that which regards “*Covering the Army while on the March, Concealing its Movements, and obtaining Information of all that concerns the Enemy.*” The latter service is especially the duty of the cavalry, to which the office of *éclaireurs* naturally belongs. As one of the first means towards their effectually fulfilling their functions as such, may be mentioned the practice of sending small independent detachments of hussars or other light cavalry to a considerable distance, both in advance and upon the flanks of the corps, under general instructions only made known to their leader. These parties would be absent some time from the main body, all the latitude being given them which the required service demands, and much being left to the intelligence of the commander. By such means in the last war, the Prussian army both obtained information and misled the French through the false rumours spread by their Uhlans. It is a manner of proceeding recommended in more than one of their authorised works of military instruction, and there can be little doubt of its value when put into practice by well-trained cavalry. Their leader should be expert in traversing country, and acute enough to extract information from the uneducated, as well as the unwilling, subjects of his examination.

All persons met with by such detachments should be detained, and questioned by the commander. Should he deem it advisable, he will compel them to remain, either to render service by the information they might give, or to prevent their disclosing the

events they may have become aware of. Should their information be of a general or important kind, and be obtained when in advance of the army, such persons could be passed back to the commander of the advanced-guard, and by him forwarded to the general-in-chief; or if on a flank, such means would be taken as were at hand, to convey them to the head of the main column.

The habit of questioning with intelligence and adroitness, is particularly valuable to officers employed upon the advanced-guard, or sent upon these reconnoitring detachments. In some short instructions attributed to Napoleon I., it is particularly recommended that the postmaster of any town or district should be selected for examination, as being likely, by direct or indirect means, to be acquainted with much that may be of importance to the general. The postmen themselves must have a thorough knowledge of the roads within their own circuit, and probably can obtain upon its outer limit some intelligence of what passes beyond it. They may be made use of in getting access to some one person there whose information extends to a greater distance than their own, and into a district where the enemy is stationed or has appeared. By such means, dexterously used, much knowledge of the state of a country may be obtained when other more direct channels fail to present themselves.

These measures for learning all that which it is so vital to the safety of an army to know, would, however, be supplemented by, or else subordinated to, the

action of an intelligence department at the headquarters of the force. It would appear most desirable that an office for this purpose should organise and arrange its functions, and connect with itself all possible channels of communication, some time previous to the actual necessity for its operations arising. Subtlety and secrecy would be the guides of all its measures; but, beyond indicating that steps taken beforehand for the organisation of such a system may be advantageous, the details do not seem to come within the scope of a military essay.

Having said thus much of that very important part of a corps upon the march, which is constituted by its advanced-guard, it will now be well to consider the order which, in a general way, should be adopted by the main body to which it belongs. It would in some degree resemble that which has been prescribed for the detached force in advance. It would still be preceded by one or two companies, to secure its unobstructed march forward by clearing the road in front, and would keep up communication in that direction by connecting files and cavalry orderlies, and would be called upon to use equal, and even greater care, in securing the flank of the column against the disorder which might arise from incursions of the enemy. Besides the flanking files which the restricted advanced-guard will have thrown out, the main column will detach small bodies both of cavalry and infantry, acting in concert upon its flanks and towards the front, in order to discover and prevent any design to impede the advance, create disorder, and make pris-

oners by the unexpected attacks of small bodies infesting the flanks of the line of march. This more especially, and, in addition, a constant vigilance over the line of road intervening between itself and the vanguard, would enable a column to enter upon its march, feeling it was secure against surprises, and the delay and disorder which they would occasion. The detachments sent in advance upon the flanks could be directed to hold the points which they might have reached commanding a view of the country, as posts of observation, until the column had passed upon its march. The security and confidence inspired by the knowledge of this arrangement may be considered of value.

Supposing, then, the advanced-guard to have left its camp from three to four hours previous to the departure of the main column, and to precede it by a distance of about eight miles, the latter, having shortly before despatched parties to the flanks and in advance, would commence its march. Should the nature of the ground admit of cavalry and infantry moving by the sides of the road, the column would be rendered more compact by one or more brigades marching in a parallel column upon either of them, or upon another road pursuing the same direction, but not so far from the main line as to prevent prompt co-operation and mutual support. It would seem, however, that the reserve artillery, and the greater part of the trains of ammunition, should be kept upon the principal road in marching to the front, and on that farthest from the enemy when the direction is to a

flank. In the latter kind of march, it is also considered advantageous that the columns should not march with their heads in the same alignment, but that they should follow each other in an echelon, in order to avoid, in a case of an attack from the flank, one of the columns (or line marching in column) being thrown back upon the other, which would probably create extreme disorder; while by the proposed arrangement such an attack would be made dangerous to the assailant by the support which each column might give to the other.

The main body, which we have supposed to have entered upon its march to the front, would be provided with a small advanced-guard in the restricted sense of the term. Two companies throwing out leading and flank files, and preceding the column by a distance of 600 to 800 yards, would be sufficient. The infantry of the corps would follow, the leading battalion having a battery of artillery between it and the succeeding battalions of the brigade—the second of that division of which the advanced-guard detached formed one-half. The remaining division would follow in a similar order to the leading brigade at the head of the column, if the whole corps should be ordered to advance upon the same road; but as this would probably be avoided, a second column would be formed to move upon a parallel road taking the same order of march, covering its own front by an advanced-guard of a strength regulated by circumstances, and in all cases leaving a small detachment of cavalry and infantry combined to close the rear, and perform the

usual duties of police and order required from a rear-guard.

By a division of the corps into two columns, the reduction in the depth of each will much facilitate the regular unchecked advance of the army; but it must be recollected that considerable intervals between each regiment or brigade marching upon the same road are notwithstanding imperative. These intervals should be sufficient to allow time for any momentary check or interruption which may occur upon the line of march, being set right without halting, or the interruption being prolonged into the parts of the column following that in which a pause has occurred. Should the whole column be required to halt, the object would by this means be effected without the crowding and confusion which appear inevitable when regiments and brigades, having been allowed to follow each other too closely, and the requisite intervals not being observed, are suddenly ordered to halt.

The next question to be examined is that contained in the paragraph of the notice marked (c.)—namely, “*The Mode of Forming, Combining, and Employing the different Arms for Attacking an Enemy in Position.*” Suppose the advanced-guard of a column, such as we have described, to come upon an enemy occupying a position by which its numbers and arrangement are in part concealed, as well as the points of the line which may be defended by batteries or strengthened by artificial obstacles—what will be the measures preliminary to the attack by which the best formation

and combination of the different arms may be brought about, upon the judicious accommodation of which to the configuration of the ground so much will depend for the attainment of success?

The advanced-guard will in the performance of its duty first discover the enemy occupying strong and elevated ground, which may perhaps bar the further progress of the corps by being placed across the line of its advance, or endanger it by a strong flank position—in both cases making a collision unavoidable. Upon receiving from his foremost cavalry patrols, or from the leading files of the infantry detachment, the report that the enemy is perceived in position, the commander of the advanced-guard will cause his troops to halt; the detachment in front will extend as skirmishers, and be properly supported; while the column itself will be put in order, and deployed, where the ground permits it, into a formation for manœuvre, preparatory to its further movements. He himself will hasten with an escort to the front, and endeavour, by a rapid reconnoissance of the enemy's position, to obtain such a notion of its chief characteristics as may enable him at once without loss of time to send a report to the general with the main column of the nature of the ground upon which the opposing force is stationed. He will then draw out his own troops in the most advantageous manner for the time, placing outposts to protect his front and flanks, and vedettes and sentries, on whom the closest observation of the enemy's position and movements must be enjoined. These pickets will be supported by stronger detach-

ments; and such measures will be adopted as may enable the brigade to sustain for a time a partial attack, or retire, if overmatched, with order and deliberation upon the main body. Having thus disposed his troops in a defensive position, he will again proceed to the front with a view to a more leisurely and minute observation of the enemy, so that, upon the arrival of the commander of the column, he may be able to confirm or correct to him the impressions which his first rapid examination had led him to entertain.

When the report from the advanced-guard of the enemy's presence reaches the corps, the commander of it will give all orders necessary to close and bring into order his force. It will continue its advance while he rides to the front; and when he has on his way there selected a position at the distance from the advanced brigade which may seem desirable, he will send a proper officer of his staff to bring up and halt the column at that point. Having gained the front, and made a more extended and careful reconnaissance of the position, he will be enabled to mature his plan for the attack. Should the night intervene before it, his force will, having first extended into line of battle, and taken up regulated positions for all arms, bivouac in line of columns covered upon all sides by its own guards, while its front will be secured by the troops in advance, towards which he may, if judged expedient, push forward a regiment in support. Thus prepared, the night may be passed in security.

Should it be decided that the attack shall take

place on the following day, the general of the main body will again proceed to the advanced-guard before daylight, and upon its appearance reconnoitre more minutely the hostile position, endeavouring to ascertain the most favourable approaches to it, the best points at which to place his batteries, and that part of the enemy's line upon which his real attack should be directed. His columns meanwhile may be advanced to the nearest favourable position for the execution of the plan of attack, and there await his orders.

Formation and Combination of Arms for the Attack.

The various arms will be formed and combined in a great degree according to the ground upon which the principal effort is to be made, and further, with reference to any false attack by which the general may endeavour to divert attention from his real plan. The artillery must in the attack of a position be called upon to take a very important part, and to prepare by its action upon the enemy's troops that state of things which gives a probability of success to the assailants. The observations of those who were spectators or actors in the conflicts of the last war seem to render this course imperative, and would also seem to point to the advantage of attaching an increased number of batteries to each division of an English corps, or at least of reinforcing, from the artillery reserve, the force which is to act with those divisions which are detailed to carry a position. The

increased range of rifled-cannon allows more freedom of movement and independence of tactics, with regard to the infantry to which batteries are attached, than was formerly possible. They are now enabled, covered by an escort of cavalry or riflemen, to seek for the most advantageous positions upon the flank of an enemy's columns or lines, even when at some distance, and from thence to act far more advantageously in support of their own infantry than could be done in a closer combination as to space. The first duty of the artillery is necessarily to open the combat, and, aiding the efforts of their own skirmishers extended in front of the enemy's position, gradually to produce, either by silencing his guns, or by causing serious losses and disturbance to his infantry, such a conjuncture as can be favourably improved for the purpose of the attack.

Meanwhile the troops destined for that service would be forming under cover of such inequalities of ground as could be used to conceal or protect them from artillery-fire; but the mode of the formation for the attack most desirable for the present time, in the face of the improved artillery and rifle fire, is still under debate, even in the army of that nation which has the latest experiences of war—namely, the Prussian; and it requires probably some change in our own. In the English, as well as in all foreign orders of attack, the front will be taken by a line of skirmishers, more or less reinforced, according to the prevailing system adopted in each country; but it is at length become a matter for consideration whether

our old and favourite order of attack—namely, in deployed lines—can be adopted as the best support of the line of skirmishers; or whether, in the fire of artillery whose precision of aim and extent of range have been so greatly increased, some other formation may not be preferable. One of our most distinguished military writers has observed, that attacks in lines of deployed battalions upon an extended front have become dangerous, if not impracticable; while columns of moderate strength more easily obtain protection from small inequalities of ground; and that several of these bodies advancing in a line are more manageable, and more readily avail themselves of every incident which may assist their forward movement, without disorder to the whole, than a continuous line of infantry, where every well-directed shot meets with an object to strike, and any irregular movement in a part creates derangement in the surrounding ones to a considerable distance. On the other hand, a number of small columns, such as those formed by grand divisions of two companies, with intervals between each at least equal to the extent of their front, offer such a variety of objects to the aim of artillery, that some confusion may be caused to it by their number, while none are of a dangerous depth or magnitude; and these considerations lead us naturally to try the formation of company or grand-division columns, so much resorted to by the Prussians in the last war, and now becoming their established order of attack, following upon a strong line of skirmishers and their supports.

The old formation for attack in the armies of Frederick the Great was that of deployed lines, in the movements of which the Prussians in his time had attained great perfection ; and in Continental armies this so-called Linear-Taktik was continued until the war of the French Revolution, when the circumstances of that country, the hasty levies it was obliged to make during the wars of the Republic, and the short time which could be devoted to the training of their soldiers, led them naturally to adopt that formation for the attack which has since become permanent in their army, and with which the great battles of the first Empire were generally carried out. All the other nations of Europe, it has been observed, found it advisable to introduce this order of attack into their armies ; some, from their force, forming for a time an auxiliary corps in the great armies of the French ; others, like the Prussians, from a conviction, after the battle of Jena, that the French could best be contended with by an order of attack similar to their own ; the English nation alone retaining the old system.

In our own military history, deployed lines have been hitherto generally in use ; but, as has been observed by the same able writer before referred to, the Peninsular battles of the Duke of Wellington (as also that of Waterloo) were generally defensive in the outset ; and it was not until after a repulse of the enemy that an attack in a deployed line took place : it was continued only for a short distance, and was carried out under entirely different circumstances to

those which would attend the attack of an enemy posted in a strong position, where the advance must be made over a considerable space against troops unbroken by a struggle in the open field, and supported by long-range artillery. This author has not, that I am aware, noticed the success of an English army when attacking an enemy's position in deployed lines during our last European war—namely, at the battle of the Alma; but it is well to recollect that the artillery of that day was not yet rifled, nor had it attained that long range and precision which leads military writers to question very strongly the expediency of attacking a force strongly posted, in a line of several deployed battalions.

The change in the powers of artillery and other firearms has had a very marked influence upon the mode of attack recently adopted. The writer of the celebrated pamphlet, 'The Tactical Retrospect,' describes the Prussian soldiers as having, as it were, instinctively thrown aside all the existing regulation formations, and as having adopted a mode of attack which, he states, was felt by the soldier to give to each man a freer use of his then new weapon, the breech-loader, and to draw from it the whole superiority which it was calculated to procure for him. The long range of rifled-artillery, the precision of its aim, and the destructive fire of the infantry breech-loaders, seem equally to point to the same change in the formation for attack; and the necessity for it is recognised by some writers of the day, although no alteration seems as yet to have been taken into considera-

tion by authority in the English army. The subject is one of such extreme importance for the future conduct of attacks by a British force, that its discussion is imperative, and the matter can no longer be left without examination.

Note.—(Referring to these changes which it may hereafter prove expedient to introduce, it may be well shortly to notice the mode of attack adopted by a talented general officer upon the last day of the autumn manœuvres near Aldershot. His infantry force, consisting of 6 battalions, was divided into three parts, and moved through the woods and low ground to the attack of the Fox Hills in the following order: The two leading battalions were extended in skirmishing line, with the supports and reserve of each, close in their rear. The four remaining ones in the centre, formed in two masses of 2 battalions each, in quarter-distance and contiguous columns, followed so immediately after, that from the front of the skirmishers to the rear of the columns, the distance did not exceed 100 yards. In this order the brigade lay concealed for an hour in the woods at some distance from the point of attack. As soon as it was perceived by its commander that the other brigades and the cavalry had arrived at their proper relative position, the whole force as above described moved to the foot of the hill. When arrived there, the supports were extended and the brigade columns deployed from its centre into line, while the skirmishers rapidly ascended the hill. When halted upon its crest, they

were quickly reinforced by their extended supports and reserves. The two lines meanwhile in their rear advanced to the support of the skirmishers, and closing their files as they reached the open ground, formed a continuous line across the height, and thus carried the position.

This skilfully-executed advance seems to offer a good practical illustration, approaching to the new modes of attack developed in the 'Tactical Retrospect,' and in a less degree resembles the order of attack used by the Prussians upon recent occasions. In the former, the open lines closing when it is coming up to support and carry through the attack of its skirmishers, was nearly represented in the attack described; while the more authorised and habitual formation for attack would substitute company columns in line in the place of the first continuous deployed line, while the second would be exchanged for a line of battalion or half-battalion columns of attack at deploying distance.)

The artillery, as has been before stated (grounding the opinion upon the latest foreign authorities on the subject, and the results of recent experience, particularly that of 1866), should be brought well to the front in all the preliminary movements and preparations for an attack. The reconnaissance made by the general-in-chief will have formed his opinion as to the point upon which its decisive action will be most required; and, as has been well observed, its effects being slowly produced, its early employment in the

attack is most requisite. But although a greater independence in its disposal may arise from its being less than formerly confined to a close proximity to the infantry, its general direction and distribution, as well as the employment of its fire, must distinctly depend upon the general commanding the division or corps. No officer, being only the commander of the artillery, can be presumed to have the same insight into the general tactical situation of the whole of the troops, as the general in command is bound by his office to possess. This he naturally derives from the commander of the army, and from the reports which constantly reach him from different quarters. This knowledge forms a considerable part of his especial duties, and is one to which his attention must be constantly directed. The artillery, then, though brought early into action, and somewhat detached with its escort from the division to which it belongs, must, in order to render the greatest attainable service to the general attack, be uninterruptedly under the direction of the corps or division general.

The columns of the main body of infantry will now be arriving near the position, of which the advanced-guard will have previously occupied a part, and which may be supposed about 2500 yards distant from the enemy's batteries, if affording some cover at that range. The front will be protected by skirmishers not extended in too regular a line, but occupying the most favourable ground, and taking advantage of the screen which is almost always furnished by it to small bodies of men. The introduc-

tion of the breech-loader has influenced also the condition of the skirmishing line, and it gave rise early in its use to the formation of what are called "fire groups," consisting of several skirmishers collected under the command of a non-commissioned or other officer, and made thus to act more directly under his influence than was possible when all were extended in the skirmishing chain. These groups first came into use when it was feared that too great an expenditure of ammunition might take place amongst troops engaged with the then new firearm; but it is evident that they may often be formed with advantage from other motives, especially when they can obtain cover in front of an enemy's position. Their fire may then be concentrated with effect, under an officer's direction, upon any point where it can cause annoyance or interruption to the enemy, and it becomes, when thus united, more effectual than that from the same number of rifles used in extended line, and without the close superintendence of an officer. The groups are secured, by their formation and by the ground they usually hold, against the attacks of cavalry, and may give valuable support to any part of the skirmishing line which may be attacked by it; and if required, they can speedily resume their places in extended order, and join in the advance when it takes place in that formation.

The skirmishing line reinforced and becoming the swarm of skirmishers, has indeed constituted the most effectual mode of attack during recent wars, and, supported by the company columns, has been able to

carry the strongest positions. It appears as if this gradually-reinforced line of skirmishers had in an irregular form taken the place of our deployed lines—the men, when closing with the enemy, uniting here and there into a knot or group, to give more effectual force to the shock with which the enemy is to be overcome. An attack has been described as taking place in this manner by a Prussian officer who took a part in the war of 1866. When questioned as to an attack ever being made by the Prussians during that war in deployed line, he answered, “No; we extend skirmishers and reinforce—reinforce until a loose irregular line may perhaps be formed.” The company columns following close, could then relieve the advanced line, taking their place in case of failure, or strengthen the impulse of their attack by joining it in immediate support.

These arrangements, or something similar in principle, seem likely to replace the old systems, whether of columns of attack or of deployed lines. We are assured in many places that they have already taken the place in Prussia of the old order of attack—namely, that of double columns on the centre at deploying distance, and with the skirmishers in the intervals; and it is probable that in France also the freer use of a reinforced extended order will henceforth be adopted. In the late war it is affirmed that the Prussian order of attack was found to be superior to that of the French. The former consisted of a strong line of skirmishers as above described, with small supports on the flanks; a line of company

columns followed as a second line ; while the third, formed of battalion or half-battalion columns, gave a massive and irresistible impulse to the whole.

It may perhaps be permitted to observe here, that no well-defined instructions for carrying out an attack can be gathered from the contents of our Field Exercise book. The word itself does not form the heading of any section, nor is any portion of the volume devoted to laying down the principles for the guidance of our officers in this important matter. When we compare this deficiency with the copious explanations given, if not in the regulations themselves of foreign armies, yet in works which have equal authority, we are inclined to think that an unpractical and parade-like character is thus given to the instructions for the movements of our infantry, and to feel that it is due to the officers of that arm, as well as beneficial to our efficiency hereafter, that clearly-defined, practical, detailed instructions should be offered to our officers in this very important point of tactics and warfare.

The infantry, formed into order of battle by divisions, will stand in readiness for the attack ; while the line of skirmishers and their supports advance, under the direction of their officers, towards that point of the enemy's position which may have been selected as offering the most favourable prospect of success to the assailing force. The nature of the ground lying between the two positions must have been carefully studied, not only by the general directing the attack, but by all officers who are preparing to take a part in

it ; and, above all others, by the leaders of the skirmishers and supports must it be studied in all its bearings and details. To select and seize a position more in advance, where some cover can be obtained for his men, and from which their fire can be advantageously concentrated upon the enemy's infantry or batteries, and thus second the action of the artillery which supports the attack, becomes the difficult task of an officer leading skirmishers against a position ; and it appears that upon his judgment, and the measures taken by him when leading the troops extended in advance of the main body, must in some degree depend the ultimate direction given to the attack.

It is at this period of the day that bodies of cavalry of moderate strength—such, for example, as are the regiments of cavalry attached to divisions—can be employed in various ways, and happily combined with the troops advancing towards the enemy. They will, at a proper distance, protect the flank of the skirmishers, or other bodies, and meet the enemy's cavalry, should it attempt to sweep away the troops engaged in extended order. If it be necessary for the latter to retire, this cavalry may effectually protect their retreat ; while, if the successful advance of the skirmishers beyond their first position leads to a general attack, it will support the flanks of the columns or line when moving forward, and be prepared to improve any advantage gained by them, or to prevent the disaster which might attend their retreat when unsuccessful.

It has been well observed, that when we consider

all the arduous duties which cavalry is called upon to discharge, both in protecting and securing the progress of an army corps when in advance or retreat, and afterwards in such operations upon the field of battle as those we have described, it must be admitted that glorious opportunities of acquiring distinction remain open to that arm; and that if a shade has been cast in recent wars upon its lustre, it has not been owing to a defect inherent in its own peculiar powers of successfully and gloriously contributing to the safety of an army, either on the march or in conflict with an enemy. The occasions which have been thus summarily noticed, are those by which especially the light cavalry may procure for themselves a high reputation and well-deserved respect. From first to last, when that use is made of cavalry which experience and the best writers point out as its peculiar province, no duties can be more arduous and more valuable, or more worthy of being honoured and rewarded.

With regard to the other troops in combination with those of the army corps—more particularly engaged—namely, the reserve artillery and the reserve cavalry, the former will be employed to strengthen by fresh batteries the fire of the division artillery, or to aid, by a great concentration of power, in crushing the defence of some important point of the enemy's line—and it should consequently always be at hand to afford its services without delay; while the efforts of the reserve cavalry are generally required late in the day, either to improve the results

of success, or to obviate the unfortunate consequences which might attend upon a failure.

The above, then, appears to be, in a general way, the combination of the various arms for the attack which experience, the only reliable guide, would show us to be the most advisable; but the nature of the scene of action will always have some influence in regulating the combination of the various arms, and the order of their employment. The subject is one which may still be considered somewhat unsettled, and open to the effect of further experience or discussion. With the English, the principal question arising from the experience of latter years, aided by the reasoning of competent officers, is, whether in future the deployed line of battalions shall be continued in our army as the authorised and normal order for the attack of troops advancing to storm a position, favoured by open ground on the line of its approaches, and defended by a powerful artillery crossing its fire upon the advancing force.

The new light in which this question must be considered since the introduction of rifled-artillery, has probably been perceived by many infantry officers, as well as by those of the other arms. Some, it is presumed, will have felt at times also the difficulty of manœuvring in deployed battalions, when in the course of an advance it has been necessary to give a slight change of direction to an extended line. In this case, where the whole attention of well-trained officers and soldiers is exclusively given to effect the object, it may no doubt be attained; and there is an

example of a battalion of the Guards, even in the heat of the battle of the Alma, changing its direction when in line, almost by the spontaneous action of the men themselves, in order to throw a flank fire into a heavy Russian column. It must be recollected, however, that this was a battalion of highly-trained soldiers, and that the movement was confined to one battalion only; and it is more than doubtful whether a more extended line, consisting of less highly drilled troops, could be relied upon to effect a change of direction under the fire of an enemy. The subject appears to be one of much importance; and it can hardly be considered prudent to postpone a mature examination of the state of our tactical arrangements for an attack upon an enemy in position, until the breaking out of a war and its consequences may force the subject inconveniently upon our attention.

(d.) *Mode of Forming, Combining, and Employing the different Arms for receiving the Attack of an Enemy.*

A defensive position has certain advantages when compared with those arrayed against it upon the side of the attack, which must be profited by to the utmost, in order to compensate for the inferiority, which is generally the cause of an army or other body of troops assuming that attitude. Perhaps the principal of these may be the choice of the ground upon which to receive the enemy, and the time usually available for its careful preparation, by adding artificial means

of defence to the natural obstacles it presents. By a judicious use of these last the advance of the enemy may be delayed, and his forces weakened by the loss incurred in overcoming them. Thus gradually the superiority in numbers may be reduced, and the combat then be prolonged under more favourable proportions of strength, until the disorder or discouragement arising from unsuccessful efforts offers an occasion for a vigorous counter-attack, by which the whole nature of the conflict may be changed, and the defending army may assume the initiative in continuing the action.

It must be remembered, as a principle now universally admitted as sound, and confirmed by general experience, that no defence should be purely passive. Means, therefore, must be reserved, while sustaining that part, of resuming the offensive at any favourable moment. Easy issues from the position to be defended must be early formed at the most convenient points, and a large body of fresh troops be kept in hand, with which to profit by a good opportunity for an offensive stroke. A prolonged attack upon the position, resulting unsuccessfully for the assailant, will probably lead to some disorganisation in his ranks, and the general in command must be on the watch to seize the moment for turning the tide of battle against him; and this will best be effected by means of a strong intact reserve. We have several instances in the battles of the Duke of Wellington of this way of successfully conducting a defensive battle to a victorious result; and besides the final one of Waterloo, others could be

named, in which the great English commander, taking the offensive at the right moment, converted into a victory what had commenced as a defensive action against superior forces.

The mode of occupying a position for defence has slightly varied in the different armies of Europe, and the choice of the ground may at times have been influenced by the varying notions as to the best mode of drawing out the troops which are to defend it. That which appears most usual to an English force is to occupy with its infantry, as long as circumstances permit, the reverse slope of the heights, so as to derive concealment and shelter under the crest from the artillery-fire of the enemy. When the actual moment of the attack had arrived, and the enemy was at hand, the army, or that part of it which was required to confront the assault, was advanced to the crest, or to whatever part might be chosen on which to meet the enemy, and upon it the struggle took place.

The artillery of the defence will profit by all the cover it can obtain from the natural conformation of the ground and from artificial protection, and will be placed so as to concentrate its fire upon the approaches leading to the position. Even from a distance its aim should be directed against the enemy's infantry; and, in a defensive action especially, the destruction of that part of his force should become almost the exclusive object and end of the defenders' batteries. In some instances, and at certain periods of an action, it seems to be admitted that an artillery conflict

may unavoidably take place ; but in a defensive position, when the enemy's infantry is within range, its destruction is the most essential element of the defence, and even the fire of the opposing artillery should remain unanswered, rather than that this more important application of the arm should be lost sight of.

The combination of the different arms for the defence of a position chosen and strengthened beforehand, differs from that usual for carrying out an attack. In general a greater depth in the order of battle is recommended by tactical writers in treating of the defence. The front of the position cannot be occupied by a continuous line of troops, everywhere of equal strength ; but the important points will be covered by such bodies as are sufficient to stop the onslaught of the enemy, while the whole ground in advance should lie under the protecting fire of the artillery. Within the position, special reserves, intended to succour such parts of the line as may be in danger, must be held near at hand for that exclusive purpose, though concealed from both the fire and sight of the enemy ; and farther to the rear a strong general reserve is indispensable to secure the retreat of the defending army, should that be necessary, or to reap the advantages which the course of the combat may offer to a vigorous counter-attack. To this reserve all bodies not required for the immediate or early defence of the front can be attached. The cavalry and horse-artillery will find their natural place there, although the partial employment of a

portion of the cavalry and the latter arm may be required at times during the day. The field-batteries may be in activity in various parts of the scene of action during the early stage of the attack, and can be moved later into previously-arranged positions, where their presence will probably be unsuspected by the enemy, and disturb his advance upon points which he may have chosen for assault, as being unprotected by guns.

Should the ground in front of the main position present obstacles favourable for occupation by sharpshooters, under easy distance of support by artillery-fire, and in free communication for the reinforcement or withdrawal of the advanced troops, it should be occupied on such points as may be best suited to protract the defence, and to embarrass the advance by disturbing the order of the attacking troops. These skirmishers can either be withdrawn when their retreat is threatened, or, when posted in buildings or ground offering means of a prolonged resistance, may hold out with tenacity, causing much difficulty and loss to the assailants, and even preventing, by the flanking position of the point they hold, the organisation of any attack against the adjoining parts of the line. The farm of Houguemont played this part at the battle of Waterloo; and its memorable resistance to the repeated attacks of the French corps brought against it, had the greatest influence in prolonging and rendering more obstinate the defence of the position.

It is unavoidable, when writing upon the combina-

tion of arms for a defensive battle, to notice the conduct which should be held with regard to the reserve cavalry. The subject has been ably handled by a recent writer, and such sound deductions drawn from the conduct of our illustrious commander at the great battle above referred to,* and from his subsequent arguments in support of the course then and usually followed by him, that the subject scarcely appears capable of further treatment without plagiarism. But there is one conclusion at which one must arrive, from the observations which the author makes upon closing the discussion—namely, that division cavalry, which, as he says, is a part of the organisation of Continental armies, would be most advantageously adopted into our own in the case of future wars, should we possess cavalry enough to admit of its distribution in that way, without too greatly weakening the main body of the arm. The reserve body of cavalry should, in accordance with the above-mentioned example and the irresistible arguments brought to support it, be kept intact and fresh during a defensive battle. In the case of the position being forced, this body of horsemen will then be able to render most important services, its strength and efforts having been reserved until the end of the combat. Upon commencing a retreat, it is that force which must be relied upon to secure the withdrawal and consequent safety of the army from rout and disaster ; or, in case of success, to turn the tables upon the enemy, and convert their repulse into a defeat.

* Waterloo.

There is perhaps one occasion upon which it may be advisable, however, and even imperative, while defending a position, to depart from the above principle, and use a mass of reserve cavalry during the earlier part of the action, and when the importance of the crisis will justify it. Should the enemy, namely, have gained the interior of the position, and threaten to make good a footing there, no effort on the part of the reserves could be considered too costly, when made in order to wrest from him the advantage acquired, and insure his repulse. Flank attacks of the cavalry and infantry must in this case be carried out with vigour, and every endeavour made to cut off the intruding body of the assailants from the point which it may have reached within the line. Minor operations of cavalry, such as the pursuit and harassing of repulsed columns by attacks upon their flanks and rear, may be carried out by the light cavalry of divisions, which should be at hand when required, at the disposition of the respective generals.

Above all, the principle which rules in a defensive battle should ever be present to the mind of the commanders of troops thus engaged—namely, that a purely passive defence can rarely, if ever, be reckoned upon to bring about the successful solution of a defensive battle.

Of the new elements of warfare, which we have considered farther back, two only affect that
Tactics. branch to which our attention is next called by the memorandum of his Grace the Duke of Wellington—namely, Tactics. As railways are, after

some years of experience, supposed by many reflecting observers to have had less influence upon strategical movements than was anticipated by the first speculations upon their probable effects in war; so also the two remaining new factors which bear exclusively upon the department of tactics—viz., cannon of long range, and breech-loading rifles—seem also likely to fall short of producing that complete revolution in the science which theorists at first may have rather vaguely imagined. When, indeed, as in the war of 1866, an army provided with breech-loading rifles was opposed to an enemy fighting with an old and inferior weapon, no limits could be set to the effects which might arise from the operation of the new arm. Its material results could scarcely have been fully perceived as opposed to the muzzle-loading rifle, before the moral effects must have disclosed themselves in a tenfold degree. It is indeed lamentable to reflect upon the position of brave soldiers led up to be sacrificed, under a consciousness of the hopeless inferiority of their arms, as was the fate of the Austrian infantry during the campaign of 1866 in Bohemia. And it may be permitted to add, that the omission to provide their troops with those arms by which alone an equal struggle against a Prussian army could be maintained, may be reproached, equally with Austria, to all the great powers of Europe.

The merits of the Zündnadel-Gewehr had been proclaimed long before the date of their first being used in war—viz., 1864—in the articles of periodical works having a European circulation; and its advantages

had probably been represented to other governments, as they were to our own, by the reports of the officers officially attending the Prussian reviews, where, as early as 1857, these firearms were used at the autumn manœuvres by the army corps of the Guard; and their great superiority to the older rifle was apparent to all observers, and was confirmed upon closer inquiry by the statements of the soldiers who had them in use. Notwithstanding this, it required the tremendous experiences of 1866 to convince the governments of Europe of the necessity of providing them. In that year this arm may be said, without exaggeration, to have changed the whole state of Europe, and to have made Prussia for the time irresistible, with Austria at her feet; while France, that ally from whom alone the Austrian Empire might have obtained assistance, was paralysed, and the movement of her armies arrested by the absence of a weapon whose overpowering superiority intimidated her. Such were the political as well as military effects of the breech-loader at that time, and fortunately the lesson was too alarming to be disregarded; and all over Europe, to obtain breech-loaders became the great object of governments and armies.

It is curious to observe the revolutions which have been anticipated in theory from the introduction of each new arm, and the way in which the effects of successive innovations have been counteracted or modified by still later improvements in other directions. When the rifle was first adopted in the place of the smooth-bore musket, it was anticipated that

artillery would be crippled by the fire of riflemen, which, being nearly equal in range to that of light field-guns, would, as it was said, pick off the gunners, and disable the horses from a distance. Soon, however, the system of rifling artillery having been introduced by the French, the artillery was enabled, by its increased range, to be kept out of the reach of rifle-fire, and could exert the same influence as formerly upon the course of a battle. In the war of 1859, the advantages of the first possession of this improved artillery became apparent; for while even the distant Austrian reserves were crushed by the French rifled-cannon, to which their smooth-bore batteries could very unequally reply, we do not learn that the French artillerymen were particularly injured by the Austrian riflemen, though they were well armed, and skilful in the use of their weapon. It was clear, however, that the rifled-artillery must be met by rifled-guns, and the Austrians lost no time in changing the system of their ordnance, and providing themselves with even superior guns to those which had so greatly contributed to their defeat. The lesson was costly, and in 1866 another still more so had to be paid for by them. The Austrians, having neglected that opportunity which the war of 1864 in Holstein afforded them of comparing the effects of the Prussian breech-loaders with those of their own rifles, and thus convincing themselves that a prompt rearmament of their infantry, in the face of so dangerous and permanent a rival, was imperative for their safety, again fell the victims to a fatal procrastination.

At present, when the conditions of war, which depend upon the nature of the arms employed, are equalised by the general adoption in the armies of Europe both of rifled-cannon and of breech-loading rifles, a new system of tactics may be said to begin. Under the first impression of the effects caused by those arms, anticipations of very great changes were expressed; but as formerly, in the case of the supposed effects of railways upon strategy, so now, with regard to those of the new arms upon the science of tactics, reaction has already begun; and although many alterations, not yet apparent or foreseen, will in the course of experience take place, yet none so absolute and total as those first spoken of are likely to justify the predictions which were made concerning them. Already premature assertions to the effect that the attack of a position in the face of troops armed with breech-loaders would be hopeless, and must be abandoned, are controverted by able and competent judges. For cavalry, which after 1866 was nearly condemned as an obsolete and useless arm, new and most important applications of its special qualities have been pointed out, arduous and difficult indeed, but practicable and brilliant to the same degree as of old; while for artillery a grander prospect of activity and effectiveness has been laid open than has been within its scope at any former period of its history. We shall perhaps find hereafter, as the result of the introduction of the new arms, that much in the science of tactics, and especially those arrangements dependent upon the range, precision,

and rapidity of fire, have been greatly modified, while nothing that is absolutely essential has been changed.

The revolution in the arms of modern warfare being completed for the present, it remains to inquire of what kind may be the modifications resulting from it, and to ascertain in what branch of tactics they will be chiefly manifested. Tactics in general may be divided into three component parts—namely, formation, movement, and combat; and it may answer for clearness to examine, as far as is possible, the action of the new arms under each of these heads; distinguishing also the higher and lower department of the science, and endeavouring to trace out the modifications which will probably be effected in both. The *grande tactique* by which armies are placed in the field of battle in the most advantageous combination, both as to the mutual support of the various arms, and the conformation of the ground, will probably be modified owing to these new factors, as will also the formation and movements of smaller bodies, such as a battalion or even a company; and we may expect for some time to see these changes gradually and more fully developing themselves, and being recognised as of influence for practical alterations in tactics.

Formation, in the higher branch of tactics, includes the whole order of battle adopted for an army or corps to enable it to meet an enemy with the greatest advantage which could be derived from the combination of the various kinds of troops, and the due employment of their several arms. Formation in this sense is one of the vastest

fields of military science, and the talent for it in a leader has a value which can scarcely be overrated. The absence of such a quality in the French generals commanding at Blenheim (to choose a well-known instance), and the consequent faulty disposition of their troops, led to their complete defeat and the destruction of their army; while at Waterloo, no less memorable by its consequences, the judicious defensive formation adopted by the great English commander enabled him to baffle the efforts of the French, and prolong the struggle till his allies arrived, and the disorganisation and final rout of the enemy followed.

This disposition of troops for battle appears to be the highest scope of that part of tactics comprehended under the head of formation, and the term tactics more particularly applied to the art of placing an army upon the field of battle. In the lower branch of tactics, formation would comprise the different modes in which the bodies of troops would be formed within themselves, whether it might be in column or line, in a close or extended order, the details of which formations have always depended much upon the nature of the arms in use, and they would consequently be modified by the great recent changes in them.

In the same way as with formation, this division of

Movement. Tactics which concerns the movements of troops, is one embracing some of the most important operations of an army. Its manœuvres, marches, and retreats, the composition of its columns upon the march, and the measures for

obtaining security during all its various undertakings, form a separate and interesting branch of the higher sphere of tactics : while in the lower one, the evolutions of brigades and battalions, of batteries and regiments of cavalry, depending as they do upon the various drill-books and *réglements*, are also calculated upon the nature and powers of the arms of the day at the time of their composition.

Lastly, in that division of Tactics which concerns the combat, are developed severally all
Combat. the highest efforts of that science; and as the variety of circumstances which arise in this crisis is infinite, its vicissitudes sudden and unforeseen, and all its conditions such as test the soundness of a system, as well as call for rare and brilliant qualities in a leader, this is the climax to which everything else has tended, and to which all previous exertions have been preparatory. It is on this occasion that those arms, the nature of which has formed so important a part of all previous tactical considerations, exert their destructive effects; and it becomes apparent whether the formations adopted with a view to meet them with the least possible injury to our troops, have been the fruit of a sound and accurate judgment of the results; and whether the forecasting speculations, such as the instructions in this memorandum naturally lead men to form, are finally justified by the severe test of practice and experience.

The first modification which arises under the influence of the new arms, and more particularly of the rifled-cannon, consists in the necessity occasioned by

them, of an earlier and more distant deployment of the columns of an army into the order for combat and attack. It may be assumed that the distance at which this must take place has been doubled by the adoption of rifled-ordnance; and whereas formerly 1000 or 1200 yards may have been considered a sufficient distance at which to prepare for the effects of an enemy's artillery-fire, an interval of 2000 yards seems now scarcely adequate to insure the required degree of security for the deployment of troops and the formation of the line. Should the ground indeed offer effectual cover from a distant fire—a condition difficult to be realised when masses of troops spread over a large surface are to be protected—the distance for deployment might be lessened. The very long range of rifled-cannon also enables batteries of that arm to take up lateral positions at a far greater distance than was formerly practicable. Under the confined range of the old smooth-bore ordnance, many a position from which at present a destructive enfilading fire on troops either moving or stationary could be directed, would have been too distant to allow of any important effect being produced. This facility alone on the part of the new guns would seem to necessitate deployment and all preparatory movements at a much-increased distance, as well as a more careful selection of ground for the formation, and for the line of attack.

Guns of long range placed at wide intervals, or even at a distance from each other, and crossing their fire obliquely upon a line of troops, either in column or

in deployed lines, would cause such destruction as it might be deemed impossible to stand against, were it not for the great influence of undulations and irregularities, offering as they are found to do a degree of protection that could scarcely be expected from them: the most destructive missiles being those nearly exclusively in use—hollow or solid shot having yielded to shell, and shrapnel or canister.

The line of an army having thus been necessarily formed at a greatly-extended distance from the point of attack, owing to the longer range of modern artillery, troops have not only afterwards to advance, exposed to fire, over a wider space, before reaching their object, but are in addition subject to the intensified destructive effects caused by the precision of its aim, and by the nature of new classes of projectiles. This change, together with the threefold rapidity of the breech-loading fire of infantry, which has to be encountered in addition to that of the artillery, before the enemy's position can be arrived at, have shown that the difficulties of the attack in close order of formation are too great to allow of its being longer retained, and have even caused it to be doubted whether the difficulties of the attack were not too great to be overcome by any tactical resources; and whether even those nations whose military characteristics have hitherto led them to prefer the attack, might not be constrained in future rather to seek for opportunities of acting upon the defensive, except under very favourable circumstances for using that mode of combat long established in their national usages in war.

A late writer has ably combated this conclusion.

Captain Laymann, 'About Tactics.'

He declares with justice, that in the present state of the art of war, when greater numbers than ever heretofore in modern warfare are brought into the field, the concentration of troops has become in itself a task of great difficulty, and the keeping them together for any length of time one of the hardest problems to solve satisfactorily; and that no army once concentrated can renounce altogether that tactical initiative in which the attack consists, without destroying the *morale* of the soldiers, who will feel that to attack is the natural part of the stronger force. There are also elements in the calculation which the writer alluded to considers should in most cases give to the assailing force a fair chance of success. These are, first, the difficulty which he assumes always to exist in finding a position for defence, combining all those points which are requisite to insure the advantages which in theory accompany that situation; secondly, the choice which the assailant has of the spot upon which he will concentrate his efforts; and thirdly, the moral superiority which is naturally engendered by the circumstances attending vigorous action, which is generally found upon the side of the attacking force, and which must in all cases be aided by the incessant co-operating action of a powerful artillery, ably manœuvred in support of the advancing troops; and it is chiefly by its aid, and the energy displayed by its leaders, that the author conceives that the approach to a position lined with breech-loaders can be made accessible to attacking infantry.

It will be apparent from these observations that the adoption of rifled-artillery has introduced very important modifications in the formation and movements of troops. Owing to various circumstances these changes have as yet never been fully developed in practice, though the anticipations of theory may have already suggested many which practice may hereafter confirm; while, on the other hand, experience will lead us to new, and as yet unforeseen, perceptions of still more important results. Thus far the effects of this new element do not appear to have been overrated. Whether in the attack or defence, whether upon troops stationary or in movement, the influence of rifled-artillery is indisputable. In the deployment of a line of battle, in the direction taken by a turning column, in the formation of bodies advancing to attack under its fire, a departure from the conditions of the older period of tactical operations will be apparent, traceable to that new and formidable engine of combat, rifled-artillery. The use, therefore, of very powerful batteries of field-artillery seems counselled by every consideration of prudence; and the English Army may be congratulated upon being provided with new guns, pronounced to be the most formidable which have as yet manœuvred in the field.

It remains to notice the alterations in the order and movements of troops which may be traced to the use of the breech-loading rifle. The effects of this arm are perceptible equally in small and large bodies of troops, and the commanders of the former can furnish us as well or better with the details of them.

The most minute description of its qualities in war, which is generally known to the public, is that given by a Captain of the Prussian Infantry,* and he has graphically depicted the spontaneous abandonment by his soldiers of the old tactical form of attack, when armed with it in the campaign of 1866. They seem to have thrown themselves instinctively into that order which most conduced to the effective handling of the weapon, and the drawing from it its fullest action, rather than with a view of avoiding its effects—the Austrians, upon the occasions spoken of, not having been armed like themselves, with breech-loaders. From whatever motive, it seems, however, to have been found advisable to adopt under its influence the extended order of skirmishers as the best formation for the attack.

The freedom of movement acquired by acting in this order, certainly gives facility for the unconstrained and more intelligent use of the breech-loading arm,† while its loose or open files in some degree diminish the action of that deadly fire which would be felt in a close-formed body of men. Skirmishing order admits also of more rapid movements, and they can, with highly-trained soldiers under skilful officers, be directed as accurately and effectually as those that take place in denser formations. A line of company columns following close in rear, can, by its flexibility, accommodate itself to the variations in the direction of the

* Tactical Retrospect of the War of 1866, by Captain May.

† See (translation) Duke William of Würtemberg's System of Attack of the Prussian Infantry, p. 17.

extended troops, far better than a line of deployed battalions in support. The widening of the intervals between battalions deployed, which has lately been enjoined in our field exercise, will no doubt give somewhat more flexibility to the movement of continuous lines; but in any change of direction, the difficulty of restoring the original alignement if required, or correctly assuming another while on the march, will always be much greater with that formation than when the line is broken into fragments, with intervals between—each company being, under the direction of its captain, required to hold its proper position, whether halted or on the move.

These considerations have so often been suggested as worthy of reflection, that we shall, it may be hoped, see some experiments made upon an extensive scale, with a view to further changes in our field exercise, should the formation in company columns meet with examination, and its advantages be recognised as those which suit it best for the order in which to attack. It may, perhaps, also be hoped that in future some instructions will be laid down for our officers, as the normal guide for their observance when leading troops to assail an enemy in position. Under ordinary circumstances, and therefore the most frequently, these directions will be followed by him; but on special circumstances occurring to which the regulation prescriptions for his conduct do not apply, he will be justified in throwing aside all rules, and following entirely the dictates of his own judgment. Such is the liberal spirit in which some of the Continental in-

structions are conceived; and in them it is considered dangerous that an officer should be subservient to rules so far as to be unable to distinguish those circumstances in which it would be pernicious to adhere to them. The new Prussian drill-book being founded upon the experiences of the late war, is, as we may infer from the preface, to be taken in the above liberal sense, and the essential never to be sacrificed to the observance of the letter.

Two effects within the lower branch of tactics, resulting from the introduction of the breech-loader, seem to point to a reconsideration of our formation of squares. The one arises from the greater efficacy of the breech-loader as a defensive weapon; the other from the destructiveness of rifled-artillery, and the nature of its projectiles, combined with its precision of aim. Both lead us to consider the means to avoid exposing men in close formation to the ravages of cannon, while maintaining at the same time sufficient solidity to resist successfully the impact of cavalry. The facility of loading rapidly, and the consequently more deadly fire of the infantry as now armed, seems to render unnecessary battalion or half-battalion squares four deep, though the peculiarities of muzzle-loading and the defenceless position of men while thus employed, made it formerly admissible to increase the number of ranks forming the square. But as it is probable that the shock of cavalry will henceforth be more weakened than formerly by the fire directed against it while advancing to the attack of infantry, it may prove inexpédient to offer so densely formed a

mass as a four-deep square to the fire of the artillery, which would by its action prepare the charge. It is scarcely consistent, at a time when the fear of a cavalry attack has so greatly diminished, to continue the use of a formation which is contrary in its nature to the growing tendencies—namely, to counteract the increased destructiveness of artillery-fire by less deep and looser formations, and to consider the attack of cavalry as less formidable than has been usual at former periods.

In our Field Exercise for 1870 (p. 193), it is laid down that a battalion in line upon a plain, where the approach of cavalry can be observed in time, may receive its attack while deployed; merely wheeling back a company on one flank, and wheeling forward another on the opposite one, according to the quarter from which the attack may come, and thus giving, as it is concluded, sufficient security from the effects of the shock. As this mode of receiving cavalry is considered sufficiently secure on open ground, upon broken ground where the action of cavalry must be more impeded than upon a plain, while artillery-fire would be equally destructive, there seems no apparent reason for a four-deep formation of square under the latter circumstances.

The system at one time adopted in the French army for the formation of squares, and perhaps still subsisting, deserves some examination, and might prove practical, when submitted to the test of experience—namely, to keep within a two-deep square two companies as a reserve, ready to strengthen the de-

fence of that front or angle which might be most endangered by the actual shock of cavalry. From the detached nature of this reserve, its support could be directed to any one, or successively to all parts of the square, and afford that assistance under any emergency which is not at hand, when, as at present, every man is disposed of in the formation itself, and many perhaps are placed in parts of it where little danger comparatively is apprehended or eventually incurred, and their presence is consequently of little service.

A square two deep offers the advantage over that of four ranks, which is derived from the ampler space in its enclosure for the reception of mounted officers, gunners, artillery-horses, and of all who require momentary protection from an attack of cavalry. If, then, it is admitted that the shock of cavalry is less dreaded than heretofore—to that degree that our regulations admit of its being awaited in line, while it was actually repulsed by the 93d at Balaclava in that formation, under the instructions of Lord Clyde—it seems reasonable to infer that so dense a mass as that of a square four deep might be dispensed with for battalions and half-battalions; while inferior bodies, which offer a smaller mark to artillery, and from their limited fire must seek for greater closeness of formation, may profit by the power of resistance afforded by company or rallying squares.

Such appear to the writer to be the tactical changes brought under consideration by the adoption of the new arms—viz., first, a greater use of a reinforced

extended order for combat ; secondly, the immediate support to the above of a line of company columns, instead of the advance in line to the attack of deployed battalions ; thirdly, the suppression of squares four deep for battalions and half-battalions. He submits these ideas with deference to those who are the most competent to judge.

*The System of Manœuvres best adapted for enabling
our Troops to meet a Continental Army.*

The system of manœuvres by which a British army may be enabled to meet a Continental one, must embrace more than the mere combinations of arms or direction of marches, which it has hitherto been, in accordance with the instructions of the Memorandum, our duty to consider ; or than the skilful tactical management of a British force, whose operations are supposed to be carried on against a foreign army with anything approaching to equal numbers. We have not yet learned to think that the superiority so often shown by the successes of English troops against enemies far outnumbering them, has as yet deserted them ; and it appears as if the object of the present inquiry should rather be—first, how sufficient numbers could be assembled in order to meet a large Continental army which should invade England ; secondly, whether our present system of evolutions is the best with which we could contend against it upon a day of battle ; thirdly, by what means we should concentrate the regular and reserve troops which we may

have in Great Britain, and combine with them the volunteers and other irregular forces which our present national organisation offers for our defence.

It is evident that, had several military centres been organised in this country, combining in support of each other, so that any one of them could have conveyed reinforcements to another, the arrival of which would nearly double the force which they joined, the autumn manœuvres could scarcely have been carried out upon a "general idea" of the presence of an invading corps of so limited a strength, which, having occupied Portsmouth and Southampton, had penetrated as far into the country as the place where the manœuvres were executed. If England south of the Tweed had been divided into four great military districts, with a headquarter establishment at the most suitable point of each, and that at this headquarter, or near the centre of each district, all the camp equipment, ammunition, and other material had been collected, which was sufficient to place upon a war footing a moderately strong army corps without any delay, it is nearly certain that the invading corps would never have risked so perilous an advance, or, had it done so, that its destruction would have been the consequence.

With the great abundance of railways in England available for military purposes, the concentration of these corps in that part of the island where danger might threaten, and the assembly of a powerful army upon any one point, ought to be a matter of no difficulty when once the obviously necessary preparations

were made beforehand. The four military centres selected for an organisation which should be suited to secure England against successful invasion, or even against panic, may be, for the sake of the present argument, supposed the following points—namely, Aldershot and Colchester in the south of this country, Chester and York in the north ; and the communication between all those four points is so amply provided for by numerous railways, that the junction of two or more corps ought not to be a matter of any difficulty ; while, in ordinary circumstances, each one of them is situated in the middle of an important district, and in the vicinity of towns or harbours requiring protection even during peace.

We have only to recall the manner in which, during the late war in France, an army under General Manteuffel was despatched by railways across a great extent of that country to reinforce Werder, when the French in great numbers, under Bourbaki, were threatening to relieve Belfort, in order to be convinced of the ease with which the manœuvre of a whole corps d'armée may carry it across an extensive kingdom. But in order to this effect we must possess an accumulation of men and *matériel* upon each of the important points, or near them, which may be fixed upon as our chief military centres. The original position of these should mark them as guardians of the most vulnerable quarters of our island, and they ought also to be the centres of our military power. Their organisation for the immediate placing a considerable force upon a war footing, and moving it

wherever it might be required, would not only give us a feeling of complete security as to invasion, but would also materially assist the Government in placing our military system upon that foundation which has so often been insisted upon by military men as the best means for obtaining a constant supply of a better class than we have hitherto generally been able to enlist—the foundation, namely, of localisation.

A difficulty may sometimes arise in localising regiments by counties, and keeping them within that from which each takes its name, from there being counties in which no fit points are forthcoming for the station of troops, and where their services are not requisite; but upon the broader basis of a large district, within which regiments were always retained in the neighbourhood of their counties, and to which they invariably returned from foreign or colonial service, no difficulty need be apprehended; and it might reasonably be hoped that when the present extreme uncertainty as to the possible station of a regiment while upon its tour of home duty in the United Kingdom should be done away with, a feeling of proximity, if not of perfect localisation, will arise, sufficient to produce that connection between the regiment and the inhabitants of the district in which it is so frequently and almost permanently stationed when at home, which would lead to a good understanding between the two, and diffuse a greater disposition to enlist amongst the population in the military districts thus organised.

To resume, then, the subject of our mode of action

against a foreign corps in case of invasion, the two quarters from which alone a landing need be contemplated are the south and east coasts ; and with the materials for the immediate equipment of an army corps at each of the four points above named, and the facilities for its immediate mobilisation, our safety would be as great as need be wished for ; but if we have not in good time, and even long beforehand, troops, ammunition, and *matériel* collected upon these various points, our security can only be imaginary : it will depend upon our enemies, and our reliance upon it has no substantial foundation.

We will suppose that the military establishments requisite for an army corps have been created at each of the above-named four places—namely, Chester, York, Aldershot, and Colchester—and that an invasion of the country takes place, let it be, as supposed, this autumn, from the neighbourhood of Portsmouth and Southampton, what would our resources be in this case against a real enemy, who would scarcely be rash enough to advance, like our imaginary one last September, with a single corps d'armée, say 30,000 men, and endeavour to penetrate to such a vast town as London ? Where could we suppose our own forces to be scattered when we could allow Portsmouth or Southampton to fall into the hands of an enemy, without assembling more than one corps d'armée to meet the emergency and raise the siege, or, should Portsmouth be taken, to retake it, or, by a battle, to stop the further progress of the invader ?

Upon the first intelligence that serious preparations

were making by any power whose armaments could possibly point to an invasion of England, our four army corps would be completed by calling in their reserve men, and by arming, clothing, and equipping them. Horses for the batteries and transport, which would long before have been selected and agreed for by the Government, would be brought in from the neighbouring farmers and contractors, and the mobilisation would be rapidly provided for. The communication between Colchester and Aldershot is so immediate and easy that the corps formed there at the first alarm could any day be transported to Aldershot or its neighbourhood; while that from Chester could in a few days be placed upon the flank of the invading army, say at Reading, or be advanced from that to Basingstoke. The corps at York, as soon as it was clear that no attack need be apprehended in that direction, could be brought to Colchester and form a reserve to the other corps engaged upon the south of London; while the militia and volunteers in the neighbourhood of each station would be called out to guard the stores and perform the ordinary garrison duties of those and the other stations vacated by the regular troops. The militia, while performing these duties, would also be able to improve their drill and rifle practice, and fit themselves to form a second line; while the volunteers, and especially the volunteer artillery, might soon be made to render valuable service in the field. Such would be the great manœuvres by which a British army might be enabled, in the first instance, to oppose with fairly equal numbers

a Continental force ; but great changes require to be made by the concentration of our troops in military centres, and by providing a sufficient supply of men for our reserves, before we can look forward to the security which this arrangement would probably afford.

These, however, may not be the manœuvres, or rather the strategical movements, contemplated in the heading of the Memorandum in the 'Times' ; but it is ventured to assume that they are necessary preliminaries to the successful employment of others of a tactical nature. His Grace the Duke of Wellington had apparently a quick perception that the mock engagements between troops of the same nation at our manœuvres, although instructive, were not held in the same conditions as those which would prevail in an encounter with foreign troops, using different formations to our own ; different combinations for attack and defence ; and versed in all the "ruses" and resources of war. Before, then, attempting to state what system of manœuvres would enable an English force to meet (successfully, let us hope) a Continental army, it was imperative on any one attempting to write upon the subject first to examine the formations and tactical movements which have so well served the Prussians in their late war with France ; and this we have endeavoured to do as far as space and time permitted. The next step would be to inquire what our own system is as compared to theirs, though, as beyond the Field Exercise and other drill-books we have no more comprehensive

and instructive works sanctioned by equal authority, it is difficult to say what our system, in a more extended sense, really is—it is, in fact, that which each general adopts for himself; and if it is called in question he has no authority in print to which he can appeal. He is guided by his own judgment in the selection of his movements or measures; but should the views of his superior general differ from his own, the want of a common authority is felt; and the absence of a standard, the result of the deliberations and decisions of the most able generals and other competent arbiters in all matters, may produce much perplexity. By remedying this deficiency reference and guidance could always be obtained more satisfactory than those to individual opinion; and the conclusions of many able men, reduced by them to one code, would possess the authority required.

The first principle which we would assume with regard to our system of manœuvres against an invading foreign enemy is that he should be attacked immediately after his landing, upon the earliest occasion which may offer any hope of success. In the case of his having landed any part of his troops, he must have secured a point where reinforcements can be sent to join him, and it is of the first importance to destroy his corps separately, and before a union of them can give him a superiority of numbers. For this reason it is incumbent upon us to be strong in the first instance, and to lose no time in seeking an encounter.

We will suppose an enemy advancing from South-

ampton, though our generals can scarcely leave him at liberty to advance into the country much beyond the immediate neighbourhood of that town; and there are many points near it at which he might be advantageously attacked and driven back. But supposing the enemy's advance by the main road from Southampton to be permitted, with the reinforcements which could at once be obtained from the organised army corps at Colchester and Chester, we cannot doubt that in a very short space of time a force of from 50,000 to 60,000 men might be collected to oppose the enemy. The difficulties of an advance from Portsmouth, blocked in as it is by Portsdown Hill, with its forts commanding the town, and all the issues direct upon London, are so great, that we can scarcely suppose that such a plan could be entertained; and altogether we are inclined to think more danger is to be apprehended in other directions.

The system of manœuvres, in a more confined sense than that of the movements of a great army in the field, would differ in an invasion according to the point at which an enemy might have landed, and the nature of the country through which he must penetrate into the interior; but in all cases the chief object must be to attack as speedily as possible with a strong body of regular troops, and to employ volunteers and yeomanry to harass his flanks, and to interrupt his communications both to the rear and laterally, while the roads leading from the coast should be barricaded, and the railways cut in suitable places. The volun-

teers and yeomanry might render valuable aid in performing these partisan duties, while avoiding as yet any regular engagement with the invader, and leaving the business of a direct attack upon the enemy, to the regular forces.

In defending the interior of the country, and especially London, it would add much to our powers of resistance, considering the great numbers of militia and volunteers that we possess, many of whom may not be at first in a sufficient state of forwardness to take part in a campaign in the open field, or to make a reliable portion of a column of march, when in hourly expectation of meeting an enemy, if two or perhaps three intrenched camps, with strong redoubts, were formed in situations selected beforehand, upon the lines by which a foreign army would advance towards London. They might form a support and second line to the regular army, which would be employed at first somewhat in advance of them, to meet the enemy upon his first attempt to enter the country. Such a camp might be formed on any favourable high ground between Winchester and Farnborough, a few miles perhaps in advance of the camp at Aldershot, which it would have upon its flank in rear, so as to derive support from any force which might be assembled there.

Upon the other side of London a similar intrenched camp for militia and volunteers might be echeloned upon the camp at Colchester, and would support the regular troops in opposing the advance of any corps which might have landed at Harwich or in its neigh-

bourhood. Our collective field force, concentrated, as we will suppose, near Winchester, in case of the landing of an enemy on the south coast about Portsmouth or Southampton, would seek the very earliest opportunity of attacking the invaders. Should the combat be unsuccessful, two lines of railway are at hand to carry back the defending army to the position in rear which it may have determined to occupy in case of a first reverse. A flank position about Farnham might probably be best suited to the further objects of the defenders—namely, to strengthen by their neighbourhood and position the intrenched camp near to Basingstoke, and to receive the reinforcements which would be sent them from Chatham and London. Meanwhile the Hampshire volunteers and yeomanry, and those also from Wiltshire and Somersetshire, supported by small bodies of regular troops from Plymouth, or other garrisons, should collect upon the flanks of the enemy, harassing his marches and his bivouacs, spying out all his movements, and performing the offices of free corps, with an advantage on their side which the French were without in this respect—namely, that of having been so long recognised by the Government as to leave no doubt of their claim to be treated as soldiers, with all their rights, if they should be made prisoners.

A similar plan to that proposed for the south of England could be carried out also in the eastern district of the military zone, should that quarter be the scene of an invasion. A landing once effected there seems to threaten greater dangers than one upon the

south, if the enemy should succeed in penetrating beyond the first obstacles. In case our navy should once have been sufficiently checked to allow a landing to take place, there seems little doubt that the foreign squadron would succeed in entering the Thames, whence it would be able to support its army during its advance towards London. This point of attack seems even more worthy of attention than that by the southern coast. London would be threatened by any success in that quarter upon its most vulnerable side—namely, that of its great docks and commercial establishments, its navigation and its wealth; all of which would be exposed to the first attack of the invader, and be, as it were, in his track. This district fortunately has lately been selected for a military survey, which will no doubt lead to the due consideration of its fitness for defence and the nature of the movements of troops which would be best suited for that purpose. There is little reason to doubt that this especial examination will easily furnish the materials for a sound and well-digested plan for its protection.

Should the day of battle arrive, Englishmen will no doubt show themselves as brave as heretofore, and freely risk their lives for their country; but in the face of the wonders which organisation has effected for the success of the Prussian army during the last war, can we hope that our troops without further comprehensive measures for attaining an improved military organisation, will have much chance of success, when the results of a long-established system,

existing through years of peace as well as in war, are brought to bear against them, and through which every contingency for war is foreseen and provided for during the leisure years of peace?

A military division of that part of Great Britain which we have specified should be established during peace, and the army corps reorganised as that body of which the frame and the component parts are always to exist, in a greater or less state of completeness, as circumstances may make necessary, always tending, however, to its full peace establishment. This should be periodically shown by the calling in of the reserves, and by reviewing and exercising the whole body of the army corps. By such means the existence and advantages of military organisation would in course of time be understood by the citizen population around these military centres; and there is ground to hope that in time a feeling of pride in the numbers and efficiency of the local establishment of the army corps would induce men to enlist, and afterwards take a willing share in completing the corps, by appearing as reserve men upon the occasions when it was assembled. Only by some plan similar to the one sketched out can so complete a military system be established, that the possibility of invasion will be doubted by our countrymen as well as by foreigners, and the conviction gain ground that if attempted the disasters which all at present contemplate as our lot would be the portion of our invaders.

With regard to our system of manœuvres and our tactics, their improvement would follow as a matter

of course, and as arising naturally from the frequent assemblies of our army corps for autumnal exercises. Those of the present year, having brought together larger bodies of troops under different circumstances to what have been customary, have already begun to have that effect. A complete and searching revision of our formations and evolutions should be made by a competent board of *general and superior officers*, who would decide upon their fitness for application against a French or German corps organised according to the existing state of tactical science in those armies.

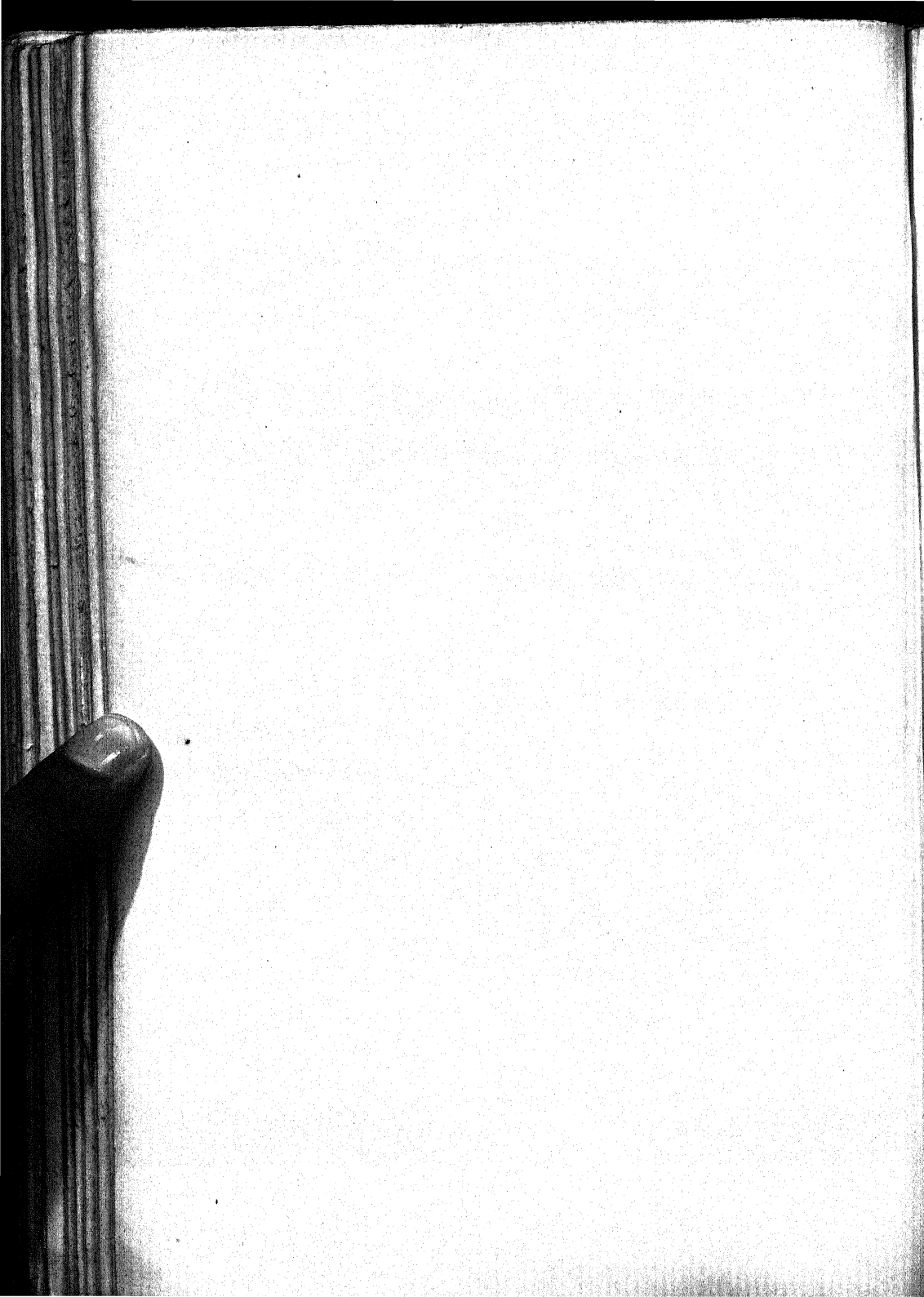
After this scrutiny, will our line of deployed battalions approve itself to the judgment of the above competent, and only competent, officers, as the formation in which an English force can advance without disorder across two thousand yards of ground covered by the fire of a well-trained rifled-artillery, seconded by that of breech-loading sharpshooters? and when arrived at the point of attack, as may be supposed somewhat disordered, shall we be considered able thus to penetrate a line formidable from its depth and solidity as well as from its fire? These points may, without presumption, be considered worthy of early examination. We venture to think, at least, that such is the case, and also that it is due to our officers to furnish them with complete and authoritative instructions as to the proper application in the circumstances of war service of the formations and movements contained in our Field Exercise; no longer leaving each one of them to apply what he has learned there according to the dictates of his own unassisted judg-

ment. At present the naked rudiments only are presented to the English officer; he requires to find in some equally-authorised work, if not in the drill-book itself, the development of their application, and guidance in the path, which he can derive only from the carefully-studied advice furnished by a body of his superiors in rank and experience.

It behoves us to consider again, now that some amongst civilians, as well as military men, are alive to the necessity of it, how much of our system of drill and manœuvre requires alteration and improvement with a view of meeting with equal arms and aids the more complete and studied composition of a Continental army. We should take all these steps in the present time of peace, not waiting for the possible failure which may result from our deficiencies in a battle-field or in time of pressure, to convince us that we are behindhand in the march of change and improvement which has been so rapid and so visible abroad.

Meanwhile the thanks of all who take a lively interest in that profession to which the title of Wellington is so glorious an accompaniment, are fully due to the present bearer of it.

The wise and patriotic proposal by which his Grace the Duke of Wellington has endeavoured to draw forth the ideas and reflections of military men of all ranks is a happy inspiration, tending to increase the love of their profession amongst those whom this occasion has induced to make it more seriously than heretofore the object of their attentive study.



ESSAY VI.

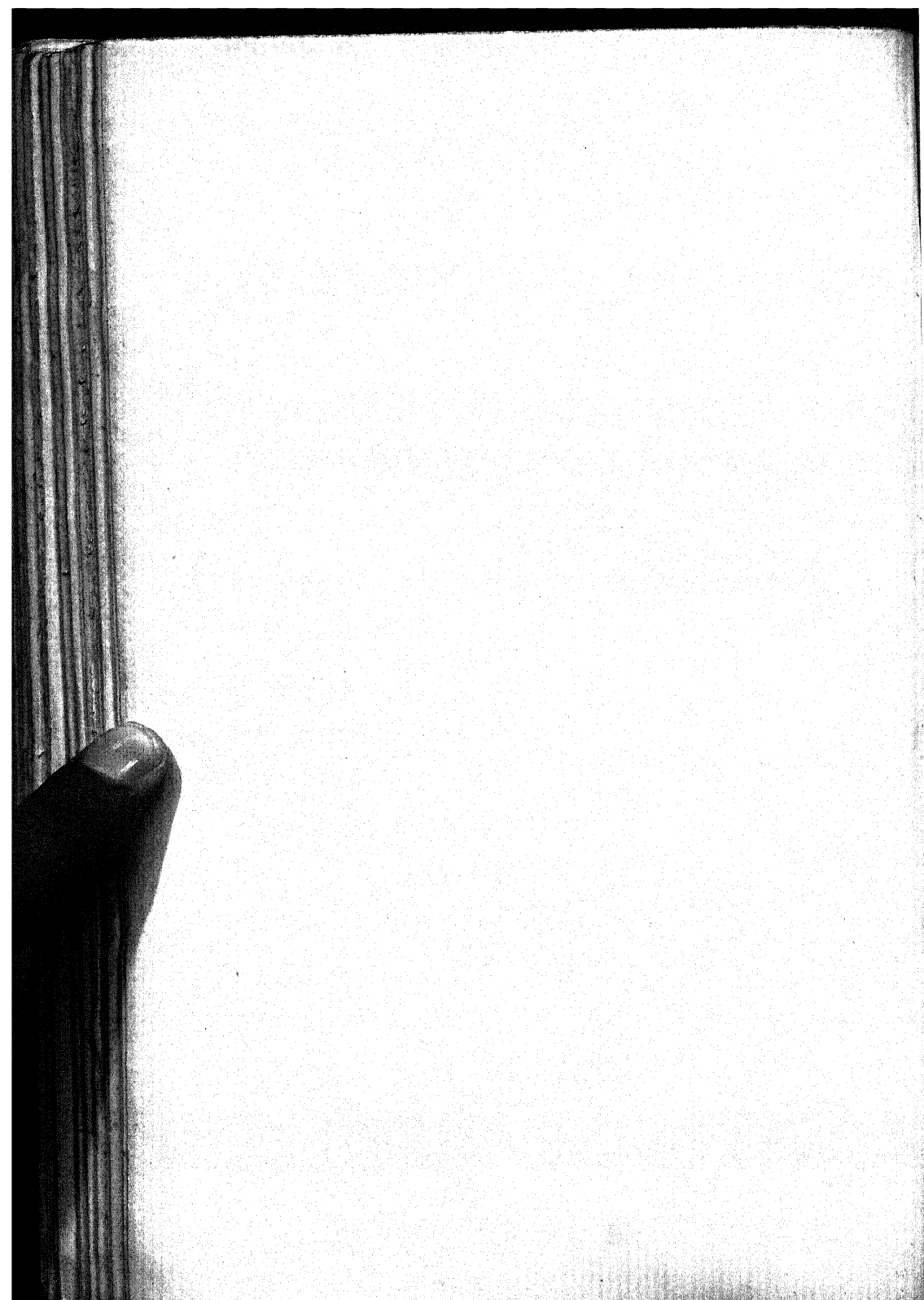
"CADENTI PORRIGO DEXTRAM."

BY

LIEUTENANT C. COOPER KING,

ROYAL MARINE ARTILLERY;

INSTRUCTOR OF TACTICS AND ORGANISATION,
ROYAL MILITARY COLLEGE,
SANDHURST.



P R E F A C E.

THE subject discussed in the following pages has been approached with a feeling of considerable diffidence.

The "best system of manœuvres for the British army" involves the consideration, at greater length than could be afforded in this essay, of numerous details of drill and organisation, which all in various degrees tend to those tactical formations which are applicable to the higher class of manœuvres on the field of battle.

It is impossible, therefore, even if it were desirable, to more than briefly allude to the changes necessary to enable any army to enter on a campaign with the hope of a successful issue, when the changed aspect of modern war, as compared with the military history of past times, is taken into consideration.

The present age is one of military revival, of more earnest study, and of a more extended examination of the science of war. Writers and translators are daily adding to our military literature either the

results of their own research, or those of men fresh from the rich experience of Continental campaigns.

New views of great questions are therefore scarcely to be expected; and in the following pages the sole aim of the writer has been to apply those great lessons—which he who runs may read—taught in the unequalled successes of a nation that has made military art its study, and in doing so has shown that education and thought can, even during long years of peace, be so carefully directed as to produce a weapon perfect for offence as for defence.

If, in the examination of the important subjects submitted for discussion, the writer has at times erred not on the side of brevity, but rather that of elaboration of detail, the error has been due to a keen appreciation of the magnitude and importance of the questions at issue.

February 1872.

ESSAY VI.

INTRODUCTORY.

“To preserve the superiority of an army in war, the system of tactics must be changed every ten years.”—NAPOLEON.

THE quotation prefixed to this chapter is the opinion of the greatest captain of his day. Whatever may have been the errors of his later career, in whatever degree he may have been demoralised by his earlier successes, certain it is that to the tactical development of his army, and to his superiority in this branch of military science, he owes much of his reputation as a commander. Not that this was his sole element of superiority, but it was one that, coupled with brilliant strategy, conduced to the victories he was, in Italy and on the Danube, destined to win. Tactics are, after all, but the completion of strategy. The latter, however admirable, however skilful, does not alone decide the issue of a campaign. Strategy may and does afford the opportunity for successful action, but it is the province of tactics to reap from that opportunity all the advantages to be gained.

But as time passed on, the conditions were changed, and his adversaries gave him greater difficulty. "Beaten into proficiency, the terms they engaged on were no longer so unequal as at first."* His tactics, relying no longer on the skilful dispositions necessary with the smaller armies he led as general of the Republic, often became mere displays of the brute force of numbers. His opponents profited by the bitter experience of a long succession of reverses, and Napoleon, through not keeping pace with their advancement, taught them at length how to conquer.

Bearing this principle in mind, that a tactical system, to reap the full advantage of improvements in arms and equipments, must be progressive, we have to seek the solution of our present problem; and in so doing, it must be remembered that changes are not always best because they are novel or strange, or that, because a certain system has rendered an army victorious in great campaigns, of necessity such a system is equally well suited to each and every nation who chooses to adopt it. Doubtless there is strong *prima facie* evidence in favour of any organisation that tends to such rapid and complete successes as those of Germany; but nevertheless it by no means follows that formations suited to the social system and temperament of one nationality should be applicable to all others not endowed with similar characteristics. Still further is it evident that great and radical changes are frequently impossible, or generally too sweeping in their character to be fully per-

* Operations of War, p. 421.

fect. Development of existing institutions, adaptation of existing forms to the newer requirements of the time, are more practicable, and give greater promise of a successful result than a sudden introduction of a novel system, that for a considerable time can only tend to confusion and disorganisation.

Hence it is that there exists no absolute reason for change in the principles of the system of drill—as distinct, let it be remarked, from the higher training of the soldier—in the English service. The object of all drill is mainly to organise the raw material of the civilian, and to convert it into the disciplined machine capable of combined movement, cohesion, and intelligent obedience. It is in the adaptation of the lessons of the parade-ground that the true objective of our research should lie. As one of the leaders of military thought in Germany has remarked, “it is the application of these principles that affords scope for the display of individual intelligence of a far higher stamp than that which is required to learn the mere mechanism of drill.”*

No effort, therefore, has been made to devise a new “red-book.” As long as battalions are by the existing one rendered capable of united action, the object of mere drill has been obtained. It is only in the application of the evolutions therein specified, the very minor tactics of war, that alterations have been suggested, applying more to the greater tactics which accompany actual collision, and to the manœuvres

* Perizonius—Elementary Tactics of the Prussian Infantry; translated by Captain Baring, R.A.—p. 1.

which constitute and lead to the operations that take place in the very line of battle.

Mode of Forming the Columns of March when a Collision with the Enemy may be expected.

In dealing with the first question we have to examine, one essential point must be pre-supposed—viz., that the character of the country through which the columns will have to pass has been reconnoitred, and that the presence of the enemy, though not his plan of operations for defence or offence, has been definitely ascertained. Thus, in the advance of the 7th and 8th corps of the second Germany army to the Saar in 1870, it is stated that “cavalry patrols had already reconnoitred the country, and the position and strength of the enemy was sufficiently well known.”* How this has been effected, and in what manner this important information has been gained, will be treated of under the head of “covering an army on the march,” &c.†

The assumption is, we hope to prove, by no means unjustifiable. Not that exact knowledge of the dispositions made by the hostile force has been always arrived at, but merely the fact that he is present in force, and has established such a barrier of outposts that no further advance can be made in continuation of the wide and general examination of the area

* System of Attack of the Prussian Infantry, &c., by the Duke of Würtemberg, p. 22; translated by Captain Robinson, Rifle Brigade.

† P. 352.

to be traversed advocated in future pages. Our object, therefore, is, with the knowledge that the enemy is in front, but whether awaiting attack or advancing to meet us comparatively a matter of conjecture, to move in such an order as will give the greatest security against any eventuality that may occur.

Under any circumstances, whatever be the strength or composition of the army, the relative positions of the different arms when on the march varies essentially with the character of the country through which the operations take place. Manifestly, in an enclosed country such as England, *cavalry*, except to provide intelligence, or to follow up shattered columns in retreat, must necessarily occupy a very subordinate position in the column of march, since favourable opportunities for its action would rarely occur.

In a densely-wooded country, again, the superiority given by the long range of *artillery* would be nullified if the extent of ground seen over were but small, and if, also, infantry could with impunity approach under cover the guns and horses of the batteries.

On a plain open and uncultivated, with few natural obstacles, *infantry* could not move with sufficient rapidity to the front to prevent the enemy at his leisure counting their numbers, examining their formation, and speculating with accuracy on the character and object of their movement.

Thus, taking these three cases as broad general types of the natural difficulties to be met with by an

army on the march, let us examine in what way they will modify the composition of the force; first recollecting that as in either case the main brunt of the battle must inevitably be borne by infantry, the object is to seek how the development of that arm can be most readily effected.

It is a matter of some difficulty to dispose of the columns as we venture to think necessary, without entering into a careful examination of the tactical system that must be adopted when collision occurs. Naturally the organisation depends very much on the character the battle itself is going to assume.* Much, therefore, of the reasoning on which the attempted solution of these primary questions is based will be deferred to a later period.

To furnish data for the dispositions suggested let us assume the army to be constituted as in Table I.

Under either of the conditions chosen to illustrate the formation of the columns of march two points have to be dealt with.

(1.) The character and composition of the advanced-guard, and its distance from the main body.

(2.) The nature of the "gros" of the columns, and their relative position with regard to each other.

It is unnecessary to enter into the minor details of the formation of the advanced-guard of a single regiment of infantry or cavalry. The drill-books of all nations are, to say the least, similar on that point, the object being only to obtain such early information of the actual

* "Il est bon d'avoir un ordre de bataille déterminé d'avance," &c.—Rüstow, *L'Art de la Guerre au dix-neuvième siècle*, ii. 16.



TABLE I.

ORDER OF BATTLE.

GENERAL COMMANDING-IN-CHIEF.
HEADQUARTER STAFF.

1st Army Corps.

2d Army Corps.

6 th Div ⁿ	5 th Div ⁿ	4 th Div ⁿ	3 rd Div ⁿ	2 nd Div ⁿ	1 st Div ⁿ
R. 11 th Brig.	R. 9 th Brig.	R. 7 th Brig.	R. 5 th Brig.	R. 3 rd Brig.	R. 1 st Brig.
♣ ♣ ♣ ♣ ♣ ♣ 12 th Brig.	♣ ♣ ♣ ♣ ♣ ♣ 10 th Brig.	♣ ♣ ♣ ♣ ♣ ♣ 8 th Brig.	♣ ♣ ♣ ♣ ♣ ♣ 6 th Brig.	♣ ♣ ♣ ♣ ♣ ♣ 4 th Brig.	♣ ♣ ♣ ♣ ♣ ♣ 2 nd Brig.
♣ ♣ ♣ ♣ ♣ ♣	♣ ♣ ♣ ♣ ♣ ♣	♣ ♣ ♣ ♣ ♣ ♣	♣ ♣ ♣ ♣ ♣ ♣	♣ ♣ ♣ ♣ ♣ ♣	♣ ♣ ♣ ♣ ♣ ♣
R. E.	R. E.	R. E.	R. E.	R. E.	R. E.
Mil. Pol.	Mil. Pol.	Mil. Pol.	Mil. Pol.	Mil. Pol.	Mil. Pol.
Res. Amm.	Res. Amm.	Res. Amm.	Res. Amm.	Res. Amm.	Res. Amm.
Res. Art ^y .	R. E.	Light Cav ^y Brig.	Light Cav ^y Brig.	R. E.	Res. Art ^y .
♣ ♣ ♣ ♣ ♣ ♣	Company			Company	♣ ♣ ♣ ♣ ♣ ♣
♣ ♣ ♣ ♣ ♣ ♣	Equip. Troop			Equip. Troop	♣ ♣ ♣ ♣ ♣ ♣
♣ ♣ ♣ ♣ ♣ ♣	Pontoon Train	♣ ♣ ♣ ♣ ♣ ♣	♣ ♣ ♣ ♣ ♣ ♣	Pontoon Train	♣ ♣ ♣ ♣ ♣ ♣
♣ ♣ ♣ ♣ ♣ ♣	Telegraph Troop			Telegraph Troop	♣ ♣ ♣ ♣ ♣ ♣
Res. Amm.	Mil. Police			Mil. Police	Res. Amm.

Train

Train

and immediate presence of the enemy as will enable the main body to make preparations for attack or defence, and at the same time be near enough to the head of the column to preclude the possibility of these leading files being cut off. The intention is rather to define the general formation of the advanced-guards of the *army*, which will, while giving facility of movement, render them capable of speedily adopting the formation best suited to the ground, and of bringing the separate columns into that position with regard to the enemy which will prevent at any time the exposure of the fractions unsupported to the hostile attack.

The strength of the advanced-guard, then, primarily depends on the strength of the army it covers, and may consist of from 1-10th to 1-20th of the latter, should several roads be occupied ;* or—since it is always unadvisable to separate

the larger units of the force—it may be formed of a brigade or division should the advance be undertaken along a single road,—*e. g.*, Forey's *Division* covered the advance of the French on Casteggio—campaign in Italy, 1859 ; *e. g.*, at Saarbrücken each division moved by a single road, covered by its own advanced-guard, differing in strength and composition—campaign in France, 1870 ; *e. g.*, the 1st and 2d infantry divisions moving from Liebau and Schomberg on Trautenau (20th June), together with a brigade of cavalry, were covered by a

* In this case one advanced-guard only covers the entire force.

single advanced-guard, the divisions being four miles apart—Prusso-Austrian campaign, 1866.

Its distance, again, depends on the time required

Distance.

to bring the columns it covers undisturbed into action—that is, it must not be so near as, if checked and pressed back, to disorganise the army taking up its tactical formation, nor yet so far as to be destroyed before the main body could come to its assistance. Thus the interval varies both with the nature of the ground and the strength of the force in its rear,—*e. g.*, at Saarbrücken the advanced-guard was from three to four miles ahead—campaign of 1870 in France; *e. g.*, at Trautenau the distance between the advanced-guard and the 2d infantry division was about one mile and a half—campaign of 1866 in Bohemia.

With these general principles we can examine the three cases assumed.

I. In a highly-enclosed country, evidence of an advanced civilisation, of a cultivated area, and probably a populous one, the means of intercommunication will be generally numerous. Main arteries of traffic connecting great centres of industry or trade will be linked by minor roads of a more imperfect character; but it would be rare, nevertheless, to find a country that admitted of very close contact between large fractions of an army, or where the great highways were much nearer than three or four miles apart.*

First case. An enclosed or cultivated country.

Hence the march of troops, though requiring care-

* The nature of the country in this instance would render the ad-

ful attention and accurate orders, as well as continued patrolling, to render the movement united and simultaneous, is not a matter of extreme difficulty. It seems advisable in this instance, to make the advanced-guard as strong as possible, for the following reasons :—

In coming into contact with the enemy, it can, under ordinary circumstances, if skilfully handled, engage him with vigour and boldness, and if strongly and rapidly reinforced with artillery, can, by a heavy fire of the latter arm, both shatter his columns and distract his attention; while a portion of the remainder of the force, pressing forward to the attack and diverging to a flank, may bring itself into a position suited for the flanking blow, which would tell the more heavily on a force shaken by a well-directed fire from the batteries.* The character of such a *terrain* with intelligent troops would facilitate such an operation. The advanced-guard would find numerous natural features, hedges, farms, or villages—that would, if wisely utilised, enable it to hold its ground if it be sufficiently strong. The artillery coming up with rapidity, but not at first influenced by the battle, would have time and opportunity for selecting the best possible positions for its most effective action. While, lastly, the numerous vance in several columns a matter of necessity, and each division would require its own advanced-guard.

* “As soon as the advanced-guard struck upon the enemy, it laid hold of him, and entered upon an earnest struggle of some duration. The artillery pushed forward in as great strength as possible,” &c.—Duke of Würtemberg: Campaign of 1870-71, p. 18.

This was upon the enclosed land and cultivated grounds of the battle-fields of France.

roads would both render the concentric flanking march of the columns moving towards the flanks easy; and the enclosures would tend to conceal somewhat, from an enemy already hotly pressed, the nature of the blow about to be struck.*












































The distance of this advanced-guard from the head of the column need not be too great. There is little danger of a strong advanced-guard losing its ground, because the nature of the country would enable it to hold its own with stubbornness. The gradual feeding, so to speak, of the line of battle, would be rendered easier, while the cover would conceal it and protect it; and the turning movement of the flanking columns should not be rendered ineffectual by giving them too extended a march.

Cavalry would evidently be out of place as a fighting arm in a battle of this character, and
Composition. only for patrolling and for local information should it form a portion of the advanced-guard: even then it should have independent action, as the scouts and links of the army corps. But in infantry and artillery it should be essentially strong, as on the "staying" power of the former, and the crushing influence of the latter, would the success of the action to a great extent depend.

The following composition would appear to answer the requirements (see Table II.):—

* "Even out of a parallel advance a concentric attack usually resulted, because the Prusso-German troops always march with a very broad front, more than a division of the army being seldom placed upon one road."—Würtemberg, p. 18.

TABLE II.

<u>Nature.</u>	<u>One Advanced Guard.</u>	<u>Use.</u>
1 Troop Divisional Cavalry.	    	To patrol and reconnoitre.
Half-Battalion Rifles. Half-Company of Engineers. 2 Guns R. H.A.	   	To open out into skirmishing order when the enemy is met with. To aid local defence. To protect the deployment.
Half-Battalion Rifles.	  	To form support for front line and finally reinforce it.
Rest of Battery R. H.A.	  	To cover the movement.
2 Half-Battalions.	  	To form support and reserve for the front line when both half-battalions of Rifles have opened out.
Troop of Divisional Cavalry.	 	To form connecting-link.
	<p><i>Main Body</i></p>  <p><i>Main Column</i></p>  <p><i>1 mile</i></p>  <p><i>2 miles</i></p>  <p><i>5 miles</i></p> 	
	<p><i>Main Body</i></p>                  	

Each of the six Divisions has an Advanced-Guard composed as above.

(1.) A troop of divisional cavalry, the other troop of the squadron connecting the advanced-guard with the main body.

(2.) A battalion of rifles with two guns.

(3.) The rest of the battery, with a supporting battalion.

Meanwhile the army corps would be, both from choice and necessity, occupying many roads. The old rule, stated very broadly, was that the front occupied by the army *en route* should not, under ordinary circumstances, be more than one and a half times the distance required to form the line of battle. But if we have strong columns there is no reason why, with modern weapons and a more elastic system of manœuvring, such a principle should not undergo a material change.

The front should be kept as wide as possible. Even with a small army like that of England, the enormous power of infantry-fire would render the separation of the brigades by a sudden irruption of the enemy by no means an easy matter; and division of the units further facilitates that flanking attack, the full importance of which is becoming daily more clearly recognised. The action would take the form of an infantry and artillery battle, and with this view the columns would advance with those arms in a prominent position. Assuming each column to be a division, the composition of each would be:—

(1.) A regimental advanced-guard of infantry, to which would be attached a non-commissioned officer and four troopers as patrols from the connecting troop.

(2.) Two regiments of infantry, followed by the half-company of Engineers to strengthen ground, and also by a battery of artillery.

(3.) The second brigade, followed by the reserve ammunition and a battery of artillery.

(4.) A half-mile in rear, the cavalry and reserve artillery, the former on the flanks.

(5.) Two miles in rear, the police and non-combatants.

(6.) Five miles in rear, the train.

It would be a matter resting entirely on the local Place of the divi- peculiarities of the ground, whether it sional cavalry. would not be advisable to mass the whole of the divisional cavalry, excepting only that required for patrols, &c., in reserve on one of the flank roads, the other being occupied by the light cavalry division when it is withdrawn from the front.* But whatever course be adopted, this arm should essentially be kept in hand, and not be committed to engagement in the fighting line. Good infantry have less than ever to fear, in modern times, from cavalry charges. At Sedan the French cuirassiers attempted in vain to reach the scattered skirmishers of the Germany army, which had even the audacity, after repulsing the enemy, to rush forward at the double to gain ground.† No good object could be attained by needlessly exposing troops that, in the British service, are not easily replaced.

The rear-guard of each column, except under the

* See p. 360.

† Correspondent of the 'Pall Mall Gazette,' 2d September 1872.

very exceptional circumstance of being seriously overlapped through the great numerical superiority of the enemy, or that of a flank march which might be more or less exposed, need be but weak. One company detailed from the rear regiment would be sufficient under all ordinary circumstances.

The reserve ammunition, however, may be required at an early period, and hence, with but a slight interval, should keep close to the rear of the rear-guard; while the baggage-train proper would be at least a march of an hour or more behind this.

The reserve artillery, in the case of collision, would be more usefully employed* on the flanks of the line of battle than in the central front. A sufficiency of heavy artillery-fire can be at any time produced by employing merely the batteries attached to the divisions.

Should the front occupied by the army on its march be an extended one, it would be advisable to separate this reserve artillery into two divisions, which would utilise the roads in rear of the right and left centre, keeping but a short interval between them and the columns they follow.

II. Turning now to the second case, that of a densely-wooded country, the conditions are widely different. Whether mountainous or flat, or encumbered with rocky masses that make movement off the roads difficult, the general character of the district will limit

* See p. 396.

the operations mainly to infantry. Possibly, actual defiles, gaps in a chain of wooded hills, may have to be entered; but under any circumstances, the very roads themselves constitute individually a series of defiles, and the passage of an actual defile in a mountainous chain will necessitate the same distribution as that we wish to advocate.

Roads and tracks are rare. The mere fact of its being land encumbered with much lofty vegetation is, in all save savage or sparsely-populated regions, an evidence of poverty of soil. The cultivation remains in the plains, and habitations requiring means of communication are in the highlands few and far between.

The advanced-guard must not run the risk of being cut off by an ambuscade, or of being seriously engaged without being able, owing to the presence of prominent natural obstacles intervening between it and the main body it is covering, to render the columns in its rear speedily aware of its danger.* It is not intended that the two bodies should be within absolute sight of one another, but that the distance preserved should be considerably less than in the previous instance—that is to say, rarely more than two-thirds of a mile.

Let us glance at the character the battle would take in case the march is opposed. The difficulties that present themselves to the assailant, and which

* This is only intended to point out that the advanced-guard should not be a distance of *miles* ahead. In the affair of Jicin, the third and fifth divisions were separated by a mountain-chain, and were not fully aware that both were engaged.

will modify his dispositions, apply equally to the enemy. We may expect to meet but few cavalry, and those merely vedettes. Artillery will be present; but unless the ground is eminently favourable, but few guns could be put into position. Finally, the combat will for some time be confined to light troops in loose order; and we should aim to feed the front, therefore, with this arm as steadily and continuously as possible.

It must be remembered that, moving on a single road, any accident to the artillery-waggon is more important and more dangerous than under more favourable circumstances. It would but endanger batteries to thrust them forward where they would encumber the road, and when the chances for their use on a large scale would be doubtful. Hence their use should be deferred till the area in front has been fully searched by the infantry skirmishers, and examined by the officer commanding the artillery. A certain number of guns is of course essential, as batteries would probably be encountered; but on a single road, space for more than six guns would be rarely discovered. A *bataille rangée* is scarcely to be anticipated in such a country, and if the enemy be met with, a brisk but desultory skirmish is only likely to ensue. And as he would probably intend merely to hold his ground for a certain brief period, the force of artillery to be expected would be in most instances the light guns of horse-artillery.

Viewing these two probabilities — viz., that the infantry will be the principal arm employed, and that the hostile batteries will be of small calibre—a dis-

position similar to that employed by the Prussians in passing the defile of Trautenau* would seem to fulfil the requirements of the situation. The march will necessarily be slow, both from the nature of the road and from the fact that as flanking parties could not move with any rapidity off it, the examination of the neighbouring *terrain* must be conducted by small bodies of horse or foot marching either on parallel tracks or pushing as far as may be convenient at intervals to elevated points, whence a more extended observation may be conducted.

In marching from Schömberg on Trautenau in 1866, the second infantry division formed itself into a vanguard, an advanced-guard, and the main body. The advantage of this formation appears to be to afford greater rapidity and freedom of advance, and the power of reinforcing at will the head of the army corps if it be assailed. It is applicable more particularly to the case of a single road along which an entire corps is advancing. In such an eventuality the arrangement of the force would be as follows (see Table III.):—

Vanguard. — Two companies of rifles in advance, with a troop of light cavalry; two companies supporting, with a section of Royal Engineers to clear away obstacles; the remaining two companies of rifles, with one battalion, preceded by two field-battery guns.

An interval of 1000 yards at least.

* Leading of Troops. By Lieut.-Col. Von Verdy du Vernois. Translated by Col. Ouvry.

TABLE III.

<u>Nature.</u>	<u>Advanced-Guard.</u>	<u>Use.</u>
<u>Van.</u>		To form front line.
		To support the above and extend it.
		To support and form reserve.
<u>Advanced-Guard.</u>		

Advanced-guard.—Half-battalion of infantry; the remaining four guns of the field-battery; the second half-battalion of the above regiment, followed by a half-section of Royal Engineers, and supported by the third battalion of the brigade; the second brigade, followed by two battalions, and a half-regiment of cavalry for patrols.

An interval of two miles.

Main body.—In divisional columns at one mile interval.

It will be remarked that the battery with the advanced-guard is composed of heavy guns, to bring, with as small a number as possible, as heavy a fire as can be obtained. As the march is slow, there is no advantage gained by the use of more rapidly-moving weapons; and the nature of the ground is equally disadvantageous to either.

But few cavalry are employed, and the brigade moves in rear of the whole.

Should the army be enabled to utilise two parallel roads conducting to separate passes within supporting distance, or even by two roads which converge on a single defile, the dispositions would be slightly different in the strength of the advanced-guards, and in this case the vanguard may be dispensed with. This would be rendered necessary by the numerical weakness, compared to the single advance, of the two fractions, which would be too small for such subdivision.

III. In the last of our three types of the order of march, there is less danger to be feared, and fewer precautions are necessary. A wide range of observation

is presumably possible, and the light cavalry can move with rapidity and retreat with comparative safety.

The advanced-guard, strong enough to occupy any position and dispute the ground, will, with a proportionate disposition or distribution of all arms, be prepared for any eventuality. Its strength should be greater in this case than either of the two others, because of the distance to which it will be advisable to push it forward. A powerful force of cavalry to cover its front, and acting as far as possible independently, should form part of its composition, as on the intelligence and activity of this arm depends the value of the information, which in such a district could be readily obtained, of the actual dispositions and strength of the opposing army.

Thus, in addition to the proportion of divisional cavalry which would be detailed for the advanced-guard, a regiment of light cavalry would be valuable both to furnish connecting-links with the army in rear and cover the advance by a wide cordon of vedettes. Early information of the enemy's movements is most valuable, for on such open ground the army, if forewarned, could at an early period make dispositions for engaging the enemy and placing each arm in its most suitable position. If the first case we have assumed was an infantry and artillery battle, this is rather one where the rapidly-moving arms will have, until the infantry come into the fighting line, the heaviest work to do, for they have to conceal as well as protect the deployment of the brigades.

With this view the force distributed as follows

would fulfil the requirements of the case (see Table IV.):—

Advanced-guard.—A regiment of light cavalry, with two guns Royal Horse-Artillery; a battalion of rifles, with four guns Royal Horse-Artillery, and a section of the Royal Engineers company (a troop of divisional cavalry); a field-battery, supported by a troop of divisional cavalry; an infantry regiment, with a squadron of divisional cavalry for patrols.

An interval depending entirely on the nature of the ground.

Main body.—A half-regiment of divisional cavalry, followed by the battalions of the first brigade and alternate field-batteries, and supported by the second brigade.

The rear-guard, which closes the line of march of the columns, need not apparently be large. Two companies would be sufficient for each main road, and these would with advantage be so detained, even when the action commenced, not advancing with the force, but remaining ready in columns or sections of companies to occupy such points as may offer the greatest facilities for the defence, until the actual rear-guard detailed during the action or at its commencement can take up its formation. The men would be neither fatigued nor demoralised by the battle, and small as their number would be, they would furnish a strong line of skirmishers to protect the first deployment of the reserve.

The formation of a fixed reserve on the line of

march does not appear to be essential. "All troops, so long as they are not engaged in the fight, are the reserves of the chief command."* Only when the actual battle formation is taken up should the reserve be detailed, as it would be only at that time that both its strength and its position on the battle-field could be determined.†

Lastly, in regarding the general utilisation of the roads when their relative character or soundness is considered, the one in the best state of repair should be occupied by the trains, brigaded with their own baggage-guard. In an extended area over which the troops are passing, it may be necessary to utilise every road; and yet some of these might be eminently ill suited for the passage of heavy waggons: they should be always far enough away to be uninfluenced by the engagement—that is to say, four or five miles in rear. The remainder of the cavalry, after providing the requisite number of regiments for the advanced-guard, would be in the most advantageous position if they were massed on that flank or flanks which offered the greatest facility for their operation; but in the present instance, where cavalry might find many means of employment, they might move in rear of their divisions, only remembering to avail themselves of cover as near as possible to the front, without being actually exposed to loss, as soon as the action became general. In all cases of this kind the flanking parties should be, *par excellence*, composed of light cavalry, not in regular formation,

* Du Vernois: Leading of Troops, p. 19.

† See p. 392.

but acting by every cross-road, and examining every village, as the ears and the antennæ, so to speak, of the army.

The advanced-guard, or rather the infantry portion of it, should be taken from the brigade immediately in its rear in all instances. The time of march of each portion of the force should be most carefully calculated, as there is nothing gained by keeping troops under arms until they are required to move; and with cavalry, if marching in rear of the column, the departure should never be hurried, for it is less fatiguing to both horses and men to push forward at a trot at intervals to regain distance, than accompany the infantry at a walk from the very moment when the brigades are ordered to advance.

The great lessons of the recent war have undoubtedly served to exemplify the value of rapidity of movement on the march. The looser, within limits, a force can march, the more flexible becomes its action, the speedier its advance. Cumbersome marches almost in battle array must give place to greater freedom of action. Modern military history is full of examples of the advantages of an organised looseness of formation.

Briefly summarising the experiences of recent campaigns, we see that strong divisions moving on a broad front, not too near each other, furnish both the power of speedy advance, and of carrying into effect on the field of battle that semi-independent action which favours most fully concentricity of attack.

The Mode of Covering an Army on the March or in Position, in order to conceal its Movements, and gain Information of those of the Enemy.

This branch of our subject naturally divides itself into two almost distinct subdivisions—certainly separate as regards the dispositions for carrying out the requirements of the case or cases. An army on the march requires its protecting cordon to be moving too, and further, to be so rapidly moving that it can retreat if the necessity arises without compromising itself. An army in “position,” on the other hand, can have its guarding line halted.

Let us consider the question under two headings, and examine first how an army can be covered on the march.

In all countries save only those in which natural features, such as mountain-chains or forests, serve as barriers both to movement and extensive view, concealment of the operations of an army simply means keeping the enemy at such a distance that he is unable to obtain any reliable account of its dispositions or its numbers. Naturally, being unable himself to examine by any other means except important reconnaissances in force the character of the army opposed to him, he has to resort to a system of espionage, which, except conducted by an organised body of men, must always be more or less untrustworthy. He is not able to see for himself; he has to trust entirely to others. He can form no definite opinions;

and even such sources of information as could be afforded by the clouds of dust marking the advance, or other similar methods of a minor kind, would be denied him if only his adversary can prevent his closing unawares on the marching columns.

Again, information is worth little unless it is transmitted with such rapidity as to be readily acted on if necessary. What to-day may be all-important, will to-morrow, in many cases, be comparatively worthless. Intelligence is not to be gained, the points of importance to a general not to be gathered, by men who can only be a very few hours in advance of the enemy. Far beyond this distance, not merely on the side where the enemy is supposed to be, but in towns or cities, at railway junctions or river passages, which, though not immediately in the sphere of operations, perhaps are still connected with it in modern days by steam, good roads, and telegraph, can brave and skilful men gather details, and even reports or rumours, which, coupled with other signs, furnish not merely trustworthy data, but food for sound conjecture.

How, then, can this be done except by rapidly-moving troops? The first subdivision of our question is in all its essential points one of the use of cavalry. Under any supposition as to the nature of the country, it is evident that the area to be covered or examined should be as extensive as possible. And this necessity precludes that examination from being carried out except by the mounted arm; and it is to it we must turn, therefore, for the solution of the problem.

The late war evinces most clearly how the intelli-

gent employment of cavalry will satisfy both the requirements of our case. Far in advance of the main army, often in but small bodies, frequently unsupported, the "ubiquitous Uhlan" of Prussia swept every avenue of the hostile territory, invaded every centre of information. Acting in no sense apparently as the strict advanced-guard of the armies, it fulfilled at the same time the very objects we seek to attain, and provided the columns with the intelligence that enabled them to act together, to adopt such formations on the march as their greater or less safety demanded, or to move with increased rapidity and without undue caution. The retreat of De Failly from Haguenau on Nancy, on the 7th August, thus removing the danger that menaced the flank of the army led by the Crown-Prince in his advance through the Vosges, the fact that after the battle of Woerth the French had so rapidly retreated as to leave the front of this force clear, the exact position of the adjacent corps of the German armies, and the successes that induced still more brilliant efforts—all points essential to a successful co-operation of the fractions of the great army of Germany—were, to a great extent, ascertained by the dashing horsemen who, with unexampled zeal and energy, everywhere searched and patrolled the roads and country towards Paris.

This is a good example of how the first of our wants can be carried out, how information can be procured; and numerous others could be taken from the same campaign. In Italy, in 1859, the want of some such system of examination, the adherence to

old methods, left the Austrians in doubt as to the dispositions and plans of the French and Sardinian army, and led to the reconnaissance in force of Montebello, which not only failed in procuring the requisite information, but tended somewhat to deceive Gyulai as to the intentions of the Emperor. Difficult and enclosed as the country is, more complete intelligence might probably have been gained by a careful and extensive use of cavalry alone—certainly equally as good information as he obtained by the battle, without the loss and demoralisation even so slight a check would produce.

Let us seek for an illustration of how concealment is arrived at in the driving back of the retreating French army into Metz.

The corps under Steinmetz were advancing on Metz from Saarbrücken, driving before them the Army of the Rhine, commanded by Bazaine.

The Crown-Prince, pursuing the defeated columns from Wissemburg and Woerth, was moving on Nancy.

While Prince Frederick Charles, marching on the Moselle towards Gravelotte, was hastening forward to complete the last links of the cordon.

Far in advance of these armies the cavalry had been moving, overlapping, as at Pont-à-Mousson and on the Verdun Road, the heads of the French columns, and keeping them in such complete ignorance of the true position and direction of the converging fractions of the German forces, that they were enabled by their very presence to check the retreat, and, though with

terrible loss, hold the enemy at bay at Mars la Tour. The unscrupulous use of cavalry at such a juncture was based on the soundest reasoning, for their brilliant charges, supported by all the artillery that could be pushed forward to its assistance, delayed the French until the infantry could arrive and finish the work they had so well begun.

But for this extensive use of cavalry, it is possible the Army of the Rhine might have made good its retreat to Chalons. But the touch of the enemy was never lost. The movements of the adjacent corps were most clearly ascertained, and combined successful action the immediate issue.

In all these cases, apparently, great independency of action was given to the leaders of this arm. Certain it is that no rigid laws of distance, formation, or close contact with the main body, were taken into consideration. It is with this view of its employment in the latest campaign that we venture to adduce the principles on which the cavalry should operate in the case under consideration.

Our present system, judging from a study of the recent autumn manœuvres, is to consider *all* cavalry as an integral portion of the divisions to which, for the sake of organisation, they are attached, or else to mass them, as at Fox Hill, in the very front of battle. Rarely were they used for reconnoitring purposes. By this course all the advantages gained by the possession of good and intelligent cavalry is nullified. Set aside the knowledge that our force is small, and we are still met by the fact that it is too valuable an

arm, too difficult to replace in the British service, to be employed, as a general rule, for the shock of battle. Essentially for procuring information it should be largely utilised for reconnaissance, rarely and sparingly for the more brilliant movements of the charge.

In only one instance, to which reference has been already made, was it used during the campaign of 1870-71 to any extent in what may be termed the front line, to attack infantry as yet unbroken, and that was at Mars la Tour. But there are exceptions to every rule. There was the fact that the enemy was already suffering from disaster and defeat, and already demoralised, therefore, by it. There was hard, stern necessity in this case, the necessity of crushing back Bazaine into Metz, and delay had to be occasioned at any risk to enable the infantry to come up. This exception is one that would rarely happen, and simply goes to prove the advantage gained by enormous armies like those of Germany. Their force of cavalry was at least 35,000 strong. They could afford, for so great an end, to sacrifice some large portion of it without being sensibly weakened, for they would still have sufficient for the other duties of the campaign. But to us such a victory would, in its weakening power, be almost as terrible as a defeat. It should form no precedent for the use of cavalry; and yet this principle, this form of its employment, rather than the rare exception, is as much a rule with us as it was in the Balaclava charge. Only on rare occasions would cavalry have to be met by cavalry;

and against any unbroken, undemoralised infantry, however scattered, it would be used wastefully and ineffectually.

The French cuirassiers charged gallantly enough on the skirmishing Prussian line at Sedan, but with how little effect is well known.

The campaign of 1866 in Bohemia exemplifies somewhat the action of cavalry according to our existing ideas; yet, as compared with their exploits in France, how little information did they furnish! One of the ablest critics of the Prussian army of that time, commenting on the evil of employing cavalry under this system, says: "It led finally to this result, that on the 2d July we were altogether in the dark as to the whereabouts of the enemy's army, which was concentrated opposite to us at the distance of only one (German) mile."* The front was never covered by this arm as it was in France; and one of the lessons the war with Austria taught the Prussians—a lesson most thoroughly taken to heart—was, that the true place for a large portion of it is in advance of the columns of march.

Hence it would seem that, inasmuch as to cover the army on the march effectually we must trust to a quickly-moving cordon, our cavalry force should consist largely of light cavalry (hussars), used expressly for an intelligence department, the remainder being "medium," with the "heavy" regiments entirely abolished. The reason for specifying the hussars as especially

Distribution of
cavalry into light
and heavy.

* Tactical Retrospect, p. 59.

applicable for this duty is, that notwithstanding the enthusiastic encomiums passed by press writers, frequently non-professional men, on the "ubiquitous Uhlan," the lancer, a heavy man heavily equipped, and further, more readily distinguished by his pennoned weapon than the smaller and less striking hussar, is not so well adapted as the latter for rapid movement and concealment. Briefly, that the proportion of light cavalry, especially and perseveringly trained for this work, should be at least one-half of the entire force, the remainder consisting of an equal number of lancers and dragoons. This equal subdivision of the "medium" cavalry—which might now be denominated "heavy," so as to preserve a more

clear distinction between the two—
 Its armament. seems advisable, for the reason that, though the lancer is the very *beau ideal* of a cavalry soldier, and is armed with the only weapon that could be used with effect, either when retreating or pursuing, against infantry in any formation, he is not equally valuable for all kinds of country. Thus the Americans, in the civil war of a few years ago, were obliged to discontinue the use of the lance, "queen of weapons" though it be, as it was useless in the forest-lands, where so many of the battles were fought, and the sword was rightly chosen for their cavalry, because it was the weapon best suited to the ground.

Division in the field into two distinct bodies. It appears necessary, to attain the end we have in view, that for actual service in the field the entire force should be divided into two distinct divisions :—

(1.) The heavy cavalry, which would be attached to the divisions of the army corps on the march, and for organisation, but separated from them and concentrated on the approach of an engagement. It would form an integral part of the main columns.

(2.) The light cavalry, which, under the guidance and direction of carefully-selected officers, who alone control their movements, would have independent action. The reports should be sent to the divisional leaders of each column; and acting on his own responsibility for the measures taken to carry out his duty, the cavalry general should be only amenable to the orders of the general commanding the army corps to which he would be nominally attached. The general object of the movements undertaken by the army would be conveyed to him. The method of forming the protecting screen should be left to that officer, who, far in advance and carefully examining the area, is alone fitted to judge of what is requisite to carry out his orders.

It may be argued that this is placing too much power in the hands of one man—that it requires exceptional ability to play successfully so important a rôle. Doubtless there may be grounds for such an argument, but it is assuredly casting an undeserved slur on the professional capacity of officers in our service to say it is impossible to secure one of sufficient ability to perform so onerous a duty. Responsibility with an intelligent man produces the power of developing a plan. It strengthens his intellectual capacity to place him in a posi-

The leader of
light cavalry.

tion where much depends on him, provided only you have trained him during peace time in the knowledge of how to do his work.

Only when the screen of horsemen is withdrawn, and the columns covered by but a few squadrons of light cavalry, as pointed out in the first section of the subject, would the general commanding the advanced force mass his regiments in the rear, under the direction, when on a limited area, of the general-in-chief of cavalry, to be used, like the remainder of the force, only in case of absolute necessity during the fight, and to be reserved for the more important duties of the pursuit or the retreat, to which they should come unwearied by fatigue, undemoralised by loss.

Thus we have the front of the army on the march covered by an independent force of light cavalry. The actual distribution must depend on the nature of the ground ; but each regiment being directed to hold and examine a specified road or area, would furnish its own supports independently. The connection between these units could be insured by frequent and constant patrols, for which very small bodies of picked men, bold and skilful riders, from each support, would fully suffice. Linking thus continually the columns with each other, every suspicious movement, every atom of information, would be rapidly communicated along the entire line.

The distance of the cordon to the front would be regulated by the nature of the country—that is, the danger of being separated from the advanced-guards

proper altogether, and the nearness of the enemy. As far in advance as possible, every main road occupied by two or more squadrons, or even by a regiment furnishing its own supports in front, and the vedettes sweeping the country beyond, would be the broad general rule. This would necessitate the departure of the force of light cavalry, in the first instance, a short time before that of the other columns, as well as their bivouacking at convenient points independently; while, by the use of a little judgment—the marching by half-sections, let us say, on the sides rather than the centres of the roads—the danger of cutting them up by the passage of mounted troops might be, especially in cultivated districts where the roads are fairly good, materially lessened. In all cases where the country will not admit of the employment of the entire force—and this would be the most frequent instance—the remainders should act as a reserve body of cavalry, moving, by orders conveyed from the headquarters staff, on such roads as may be directed.

Only one point more with regard to this flying corps. No town or village should be entered by any portion of it without careful inspection. Far better diverge and pass round it before entering than run needless risk; and even in examining it, let two troopers only ride at full gallop through it before their supports enter. A neglect of this principle led to the complete disorganisation of the Bavarian cavalry in 1866. The reserve cavalry, under the command of the Prince of Taxis, advanced, unsupported by infantry, through the wooded and hilly defiles near

Hünfeld, and meeting unawares the head of General Beyer's division, it was suddenly attacked, its advanced-guard driven back disordered, and the whole force retreated panic-stricken towards Bischofsheim.* The delay this examination of villages and other similar matters would entail, is yet another argument in favour of moving as far ahead of the army as is consistent with safety, so as not to block the way, and also in favour of the independent action of the arm. If the screen be complete, and the patrols do their duty, there is no fear of any portion of the cordon being severed. Their duty would rarely lead them to fight; never, save in rare instances, when a great end is to be attained at any sacrifice, should they definitely attack. Only so far as would be requisite to ascertain the character of the enemy's force should "front" be shown; and if his presence be displayed by an opening of fire, a halt and utilisation of cover will render the force assailed safe until the question whether the resistance met with is that of a mere detachment or that of the actual chain of outposts is solved, either by the unopposed overlapping by the remainder of the cordon of the disputed point, or by the extension of the firing all along the line.

In such a case as the latter, the retreat, directed by one or both wings on a prearranged point (notified daily to the commanding officer of the light cavalry by the chief of staff), will be carried out, leaving only a few squadrons to provide guides for the advanced-guards of the main body; and the front would then be left

* Prussian Official Account, p. 482.

clear for the advance in battle order of the columns of the army corps.

Mode of Covering an Army in Position, to Conceal its Movements, and obtain Information of those of the Enemy.

The second division of the subject of "covering an army" gives us different data on which to base an argument. An army "in position" is more or less a stationary body, and only moves to make such change as may from time to time appear advisable, to conform to the probable line of attack of the enemy. Hence, while still obtaining information by our light cavalry, acting with a fixed and not a movable base, we are to furnish, by different means from those described in the previous chapter, the concealing screen. We are enabled to do so by a stationary force; but still, in all cases, it would apparently be necessary to have one of a mixed character; and as we have already pointed out that the advanced-guards must be constituted according to the nature of the *terrain*, so in the present instance this very force would be the most readily available for the duty. The light cavalry would still operate for information, but would be now attached to this advanced-guard, and while still preserving its independency of action, furnish its reports to the commander of the stationary chain.

Briefly, the question is one of outposts. The main principle of this most important of all military duties is sufficiently simple, and suffers only such

modification in detail as the character of the area directs. It must be connected enough not to admit of any force passing through it; be able in falling back to obtain ready support from its own arrangements, and be far enough to the front to prevent its being forced back before the main army can complete its tactical dispositions for defence; and still be not so advanced as to be destroyed while carrying out its protective duties.

Under all circumstances it must, however modified in detail, consist of four principal lines, the first of which is that nearest the army it is covering.

(1.) A mixed force of infantry and artillery, forming a series of strong bodies or main guards.

(2.) A chain of smaller fractions of infantry alone, composing the pickets, which furnish

(3.) The outer line of sentries.

(4.) A body of light cavalry acting independently, but furnishing its reports to the commanding officer of the outposts, and providing the main guards with such cavalry patrols or orderlies as they may require.

In regarding the numerical strength of the force thus disposed for the protection of the army "in position," the nature of the country, whether affording an extended view or otherwise, must be considered. It is a simple question of how a vigilant and complete supervision of every feature of the area in front can be most fully accomplished. Thus the distance of sentries in the outer line may vary from 50 to 100 or 200 yards—that is, as far apart as possible consistent with keeping each other in sight; and this

will occasion a greater or less multiplication of pickets, and consequently of main guards also. The first question, therefore, to be determined in the composition of the outpost force is, the number of sentries required for this careful inspection; having this, the strength of the pickets giving three reliefs, and of the main guards giving two, will be fixed. Though, as a rule, the main guards should be centrally situated with regard to the pickets they support, and these again with the line of sentries, such a rule must not prevent the ready selection in preference of all points of local tactical importance, and these should be as completely prepared for defence on their front and flanks as possible. Too much stress cannot be laid on this. It might happen that the very outpost line at one point might, at some period of the battle, become a valuable *point d'appui* for those offensive returns on which all successful defence depends; and further, these points, if carefully chosen, would render it possible for the outposts to hold their ground with certainty as long as would be necessary to oblige the enemy to deploy his troops—using this term in the wide sense only of forming his order of battle—and occasion both valuable delay, as well as afford an opportunity of estimating his numbers and his plans.

The inner and smaller chain of main guards would
Position of the
main guards. be advantageously placed just within
the short range of the defender's batteries—that is, about 1000 or 1200 yards—and situated on or near the main roads converging on the

position. If a strong minor position is near the highway, it should be held and carefully prepared; and at these points only, as a rule, should the guns of the batteries be placed, so as to sweep the roads and cover the front. A clear line of retreat, if one does not already exist, would have to be made for them; and as they would be posted there without their waggons, which might be kept further in the rear on the road, they could be speedily withdrawn if endangered. Royal Horse-Artillery batteries would be, therefore, on account of their superior mobility, best suited for this defence, and two guns would be sufficient with each main guard.

Within sight, as far as convenient, and within short musketry-range, should be the second supporting line, the pickets—that is to say, from 400 to 600 yards in advance. The accuracy of infantry-fire is such as to admit of greater distances being taken up than formerly; and the nature and extent of the enclosures which would prevent this fire from being effective, as well as affect the power of retreat or of support, would be the only questions leading to a modification. These would occupy points in or near the roads—always having regard, however, rather to the power of local defence and of mutual assistance, than to their centrality in respect to the cordon of sentries.* It is with this line of pickets that the greatest care should be taken, for by them the brunt of the battle will be borne if

* An examining party would be furnished by them for every main road, and stationed just in rear of the line of sentries. It should consist of a non-commissioned officer and three men.

an attack were delivered. Hence to each of these should be attached Engineers, whose duty would be both to advise in the selection of good defensible positions, and their preparation when chosen. Local means of temporarily barricading roads, of increasing the value of natural obstacles, and of destroying dangerous cover, should be everywhere prepared.

It must be remembered that outpost duty, if properly attended to, is singularly arduous, and that the object of the outer line is rather for supervision than actual fighting. They should be pushed well to the front, within sight of the pickets, generally speaking—but beyond the range of their vision, if necessary, at important points—the link being kept up by a second line. Care should be taken to lessen the fatigue of the duty by placing the double sentries as far apart as is consistent with their seeing each other, and always concealed from front view by cover.* If too dense a line be taken, requiring also numerous pickets, the sentries might fall back in confusion, and be crowded, a disorganised mass of fugitives, on the position they were supposed to protect. Great coolness is required of these vedettes—careful and constant attention to every movement, however slight, occurring in their front. Want of coolness, leading to unnecessary firing, and want of attention, leading to surprise, are equally reprehensible.

* “From the immediate proximity of the enemy, who fired at everything they saw or conjectured, even the most advanced posts were kept under cover.”—The 5th Corps before Versailles: Major-General Walker, C.B. This equally applies to all outpost lines, either for protection or concealment.

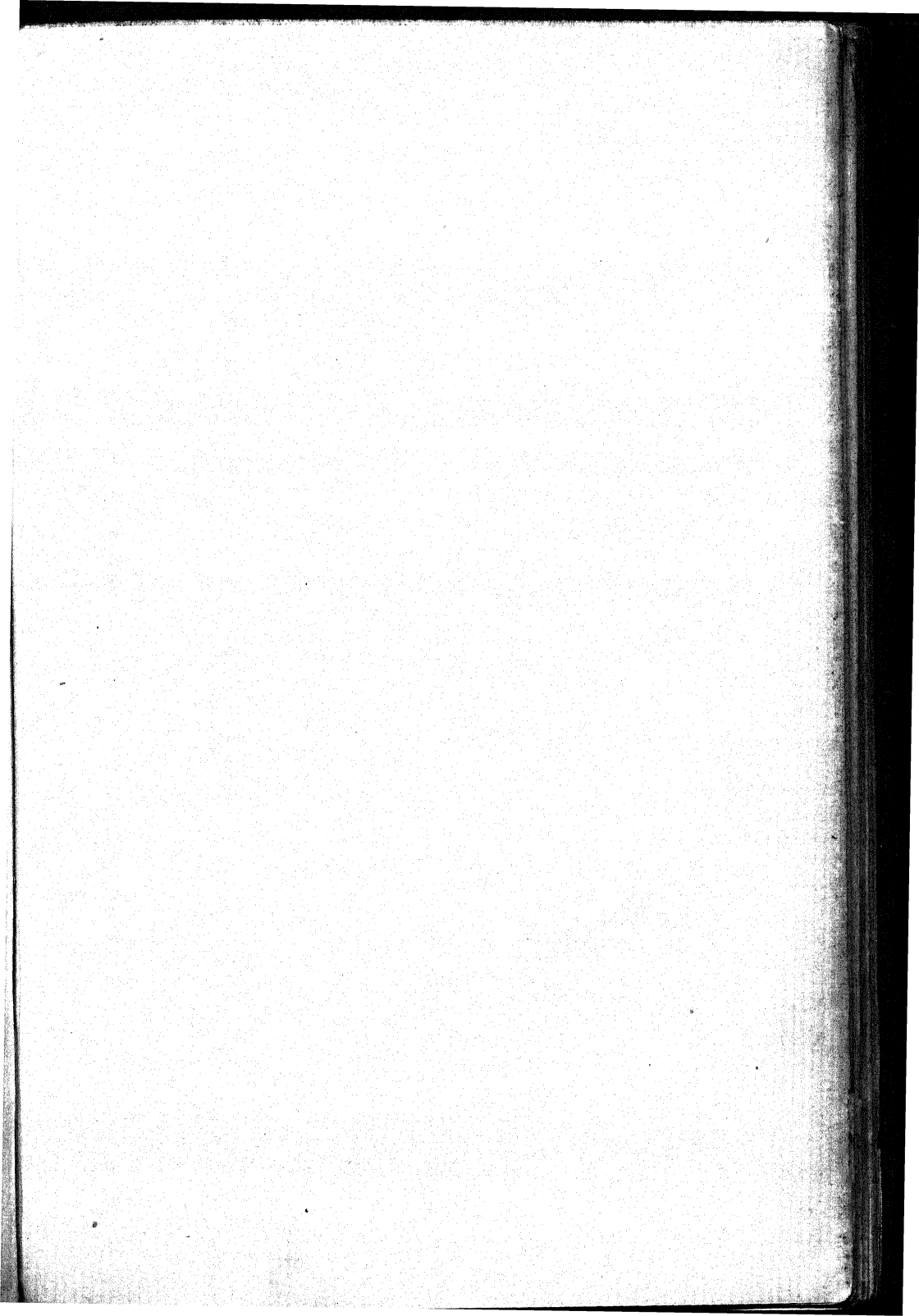
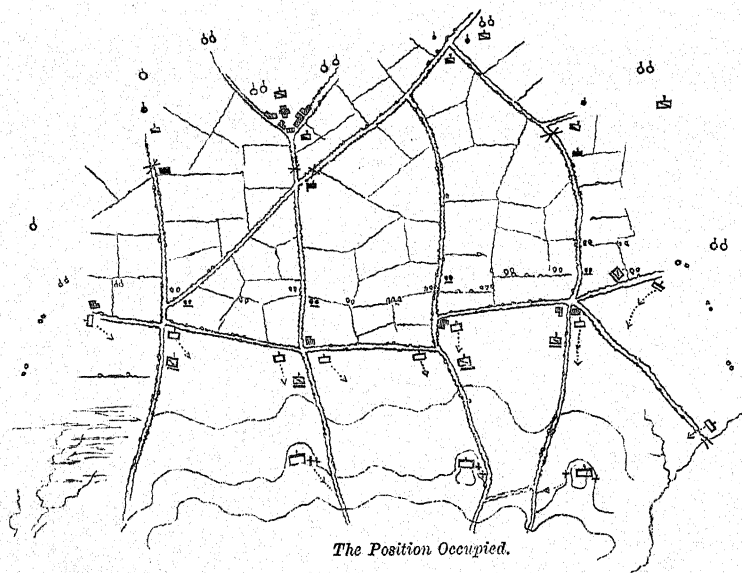


TABLE V.

PROTECTION OF A POSITION.



X X Temporary Blockade (felled trees) at night.



Small Infantry Parties and picked patrols of Cavalry at night, pushed as far to the front as possible to give timely warning.



Cavalry Vedettes and Infantry Pickets by day.



Infantry Sentries by day.



Light Cavalry stationary Pickets.



Light Cavalry advanced Pickets.

The work to be done by an outpost line may therefore be thus summarised (see Table V.) :—

(1.) The line of sentries to inspect the ground, and retreat slowly and steadily, if attacked, on the pickets.

(2.) The pickets, a line of strong defensive posts, chosen with regard to their defensive capabilities and their continuity, which would be stoutly held.

(3.) The main guards defending the retreat of the pickets, and capable of holding their ground for a considerable time, until the pickets had passed through, when they would become the advanced posts of the position.

One principal feature in all well-conducted outpost duty is patrolling. Small picked bodies of a non-commissioned officer and two men would be sufficient, as they would not attract attention. These should move continually along the line of sentries, never even as patrols exchanging loud challenges, but rather by a quiet interchange of countersign, preserving that silence which first of all least tends to create alarm, and next keeps sentries more constantly on the alert. The details of the duties of both officers and men are too well told in the 'Soldier's Pocket-Book,'* and the numerous treatises on this special subject, to need any further comment.

One remark more on the outer cordon. While keeping concealment essentially in view, this should not lead to the sacrifice of the means of rapid and even silent retreat. There is no necessity for a stand

* Soldier's Pocket-Book. By Sir Garnet Wolseley.

to be made, or firing to be indulged in heedlessly, by the sentries, as long as the pickets are aware that the former are retiring on them.* Unnecessary alarm and waste of ammunition might follow a needless outbreak of fire at points where no real danger threatened, and no real defence was intended. It is needless to point out the advantage of double sentries. This system is common to all armies, and not merely admits of one of them being always stationary while the other can advance to examine with nearer care a suspicious object, or can communicate with the sentry on his flank, but because of the additional confidence such companionship imparts.

Cavalry, the arm most useful for gaining information under the ordinary conditions of warfare, has now to be dealt with. We have already referred to the independence of the light cavalry on the march; that same individuality of action appears equally applicable here. Still acting as scouts, still moving far in advance of the infantry line of posts, ever gaining from freedom of movement all the benefits to be derived from it, the light cavalry vedettes would be from dawn to dusk patrolling, examining, and reconnoitring the entire country. Never fighting, and always giving way if forced or pursued, but at the same time preserving the touch of the enemy till he came within sight of the chain of sentries, the information of every movement made

* This does not mean that the sentries are never to fire at all, but rather never to do so unless they see something to be fired at. No hurry in firing should be allowed.

by the adversary ought to be clearly known by the headquarter staff, and the outposts themselves be never at a loss to know when and where the attack might be reasonably supposed to be made. Assistance is given the latter to perform their duties efficiently, and rest from unnecessary anxiety afforded them.

The pickets or supports for this arm, one line of Situation of their pickets. which would alone be necessary, should be taken up just in rear of the line of infantry pickets—that is, not so far in front as to be endangered by the retreat of the sentries, and yet not so far in rear as to give the patrols unnecessary labour in returning to these posts for supplies, or to furnish the information that mounted orderlies, always kept ready there, would transmit to the commander of the outposts and to the chief of staff. Activity should be the essential characteristic of this force; willingness to bear the hardships of constant fatigue, and the discomforts of a simple bivouac, as the ordinary duty merely of the light cavalry soldier.

At night this screen must be more or less withdrawn; but on the main roads, certainly, small picked bodies of infantry, composed of men selected from the patrolling parties because they had evinced the greatest power of recollecting ground—a habit not common The outposts at night. to every individual—might be pushed forward along the main roads beyond the line of fixed sentries. To these might be attached single intelligent troopers, lightly equipped and deprived of all unnecessary weights, which might be left at the bivouacs, who could advance with all

possible secrecy and care to as great a distance as their judgment would direct them. By night, movement is confined chiefly to these main roads, and intelligence would be quickly furnished by such means as the above; while the small advanced posts of infantry, forewarned by the cavalry scouts, would, though numerically weak, still be sufficient perhaps to deceive the enemy and cause that delay which is more essential at night than during the busy hours of the day.

A very simple calculation is required to determine the force required for the outposts under ordinary circumstances. A battalion of 8 companies will cover about 2000 yards

Extent of ground covered by a force.

of front. If the army occupy a position of about 6 miles in extent, a force of perhaps 6 battalions would be required to furnish a line of outposts sufficient to overlap the flanks, which, with a battery of 6 guns of Royal Horse-Artillery and two regiments of light cavalry, would afford complete protection.

The subject of outpost duty in its entirety, and the details which are so numerous and so interesting, form without other considerations a matter too extensive to be examined here. How necessary attention to the duty is, the surprise of the French at Weissenburg most completely shows.*

In war, fixed rules are impossible, and principles

* "Whilst General Douay's division . . . was encamped in the neighbourhood of Weissenburg, they were startled by a tremendous roar of artillery. As the patrols which had been posted along the frontier had not signalled the presence of any Prussian troops, the men believed for a moment that they were surrounded by the enemy." —Report of the Battle of Weissenburg.

capable of unlimited expansion can alone be laid down. The development of these, and their application, are only to be attained by careful study in peace time, and by educating both officers and men in the appreciation of the varying conditions of ground, on which the modifications of principles alone and entirely depend. Not merely occupation of the ground by outposts, but immediate efforts to strengthen, however imperfectly, the positions occupied, is exemplified by the Prussian outposts before Paris. Roads were blocked with abattis, houses speedily rendered defensible—certainly against all direct attack—and though at first the points held were merely field outposts, they became eventually almost lines of circumvallation most difficult to pierce.

Mode of Forming, Combining, and Employing the different Arms for Attacking a Position.

In discussing any existing system that may seem so far weak in principle as to suggest very considerable alterations, it is always well to note first of all what that system is. Fortunately the past year has given us a very complete example of our present tactical dispositions, both for attack and defence. Briefly stated, it may be said to be a first line deployed and covered by skirmishers; a second deployed or in battalion columns, within a very moderate distance; and a third in line of battalion columns,* to act as a reserve. The

Examination of
our existing
system.

* Sometimes half-battalion columns.

column was regarded as merely that formation which, from its very compactness, should only be rightly used till the regiment was required to enter the fighting line—that is to say, when the true advance to meet the enemy, when the actual moment of collision, or rather of opening fire, approached, the columns were deployed into line. Regardless of the character of the ground to any extent, still keeping as far as possible that close touch so admirable on a parade, the line was viewed as the natural formation for the infantry, the column but as the means of keeping the battalion together under cover till that line could be formed. Let us glance for a moment at the drill-book, in further examination of this plan. The whole series of movements is based on the use of the line as a formation for the front of battle. “When the second line is required to relieve the first it will be deployed”^{*}—that is to say, at the moment when the enemy’s fire has been so deadly as to necessitate the relief of the front line, the most inflexible and difficult of all military manœuvres, even on a parade, is adopted to bring the fresh troops into the new position.[†] The line is equally weak and equally strong in all its parts—equally exposed to fire, whether it is usefully employed at all points or otherwise; and much as it is asserted

^{*} Field Exercise, p. 277.

[†] “When armies were equal in flexibility, in discipline, and in weight of fire, it was incontestable that a body of troops formed in line could only advance under fire to attack another line of equal force at great risk of being defeated before the actual collision took place. Columns, therefore, were the alternative.”—Operations of War, p. 320: Hamley.

If this be true in the time of Frederick, how much more so is it when each soldier can fire 20 rounds per minute from his weapon.

that complete control is possessed over it, it is no uncommon thing to see the fire opened by one company ripple along the front of the entire battalion or brigade, especially if the men are at all excited, whether there is any real occasion for it or not. The very principle of so distributing the force as to make it weaker or stronger, as the varying conditions of the battle or ground may dictate, rather than having a long front of equal value in all its parts, is violated by a line formation. The mimic battles of the autumn manœuvres of last year showed how deeply seated was this prejudice in favour of the line; yet the opinion of a most able foreign officer who was present is most heartily echoed by the writer—"It was admirably done, but you will never be able to adopt it in modern war." Viewing the question in this light, let us examine the arguments that can be adduced against the line as a battle formation.

Instructive and complete as have been the lessons to be gathered from the campaigns fought within the last fifteen years, it is difficult to select any one that affords such equal conditions on both sides as to afford principles which can be laid down beyond question.

The campaign of 1866 was one in which the breech-loader occupied the most prominent position, and to which much, though not all, of the success of the Prussians may be attributed.

Difficulty of
finding good
examples from
even modern
war.

The Italian war of 1859 is in some respects not dissimilar, though to a less degree, as the rifled-artillery

of the Emperor exercised a considered influence in deciding the fate of Solferino.

The recent struggle in France at first seems to present the most useful field for study; but here, again, the early disasters that befell the Army of the Rhine, and its inefficient organisation, exercised a most baneful influence on the national character of the French, and by destroying their *morale* almost from the very commencement, rendered the task of the Germans less difficult than it might otherwise have been.

But in all these, more particularly the two latter, one great principle was exemplified, both by French *élan* in '59, and by methodical systematic direction in the Franco-German war: we mean the advantage

Rapidity of
advance neces-
sary to avoid
loss.

of rapid movement on the actual field of battle, both in order to shake the *morale* of the defenders, and to prevent that exposure to fire which is so disastrous. It is on the destructive nature of this infantry-fire that the writer bases his argument. All-powerful for defence it is known to be—*vide* Chlum;* equally terrible for offence in the hands of cool, trained soldiers, the battle-fields of France will show. All that is necessary to derive complete benefit from the use of improved firearms, is training in steady shooting, and accuracy of aim. Better, a great living strategist has said, a bad weapon in the hands of a good soldier, than a good one in

* "The Austrian column, 20,000 strong, advanced in the most perfect order to the attack. In twenty minutes, under the fire of the Prussian breech-loader, it lost 279 officers, 10,000 men, and 23 guns."—Tactical Retrospect.

possession of a man imperfectly trained. Only cool skill gains the full power of the rifle; the adversary less capable of using it obtains but the power of making more smoke, more noise. Hence let us seek in our tactical system to develop the power of the arm; in fact, on the weapon base our tactics, rather than *vice versa*. The breech-loader gives as heavy a fire, if necessary, from a few men scattered, as did a whole line in Frederick the Great's time. Can we not therefore well afford to loosen the rigidity of our formation, provided only we can teach our soldiers to be as steady scattered as when in the more serried line?

It has been asserted, and, we think, with justice, that the Teuton and the Anglo-Saxon are the only nations who combine phlegmatic character with discipline and endurance, and who are therefore able to avail themselves of the extended order of battle which affords the greatest facility of movement, as well as the opportunity for using the modern rifle with the greatest effect. The English army was one of the first to adopt and take to heart the advantages of the two-deep formation, because of the fighting power and dogged obstinacy of its soldiers. It could trust in the discipline and firmness of its men, and the "thin red line" has stood the shock of many a fierce attack. Surely the knowledge of this fact should teach us to march with the times, and utilise, as we well can, the enormous advantage loose order gives to the breech-loading arm. If we can trust our infantry as we always have been able to do under the present system, why despair of

Influence of national character.

using to advantage the new? We can well afford to loosen again our tactical formation, and adopt the benefits of that more flexible order which has won half the battles of the last campaign. True, great superiority of numbers on one side was always there developed; but inasmuch as the principle on which the tactical movements was based is due entirely to an appreciation of the individual bravery and character of the assailants, so the writer thinks the English nation above all is most calculated to derive benefit from the greater flexibility, and more perfect dependence on national character, which the tactics of the Franco-German war have evidenced.

The object sought to be attained in any offensive movement is the striking a decisive blow at some point of the enemy's line, and bringing a preponderating influence to bear on this tactical objective. The adoption of a calculated loose order readily enables this to be done, because,—(1.) it covers a wider area, and renders it difficult for the enemy to discover the true line of attack—that is, it insures secrecy; (2.) it compels him to extend his front, lest he be outflanked, and thus may leave points of weakness.

Against this it may be urged that the assailant is equally weakened, and is liable to a return blow. But it must be remembered with cool, disciplined soldiers, the extension is not necessarily attended with danger. Their fire, from its rapidity and accuracy, covers the ground in its front far more completely than even the continued deployed line in past wars. Take an

example of our meaning from the science of fortification. Who now would advocate the continued line of a Vauban or a Cormontaigne? And yet what is this in principle but the deployed line? Redoubts, with intervals, depending essentially on the nature of the ground, protect far more completely a given area than a bastioned trace. Equally so the scattered, though methodical grouping of a system of columns, altered in character to suit the *terrain* and avoid exposure to certain loss, not merely gives greater facility of movement, but, while covering a larger area, protects it equally as well as the continuous line of men.

The aim of a tactical system should not merely be to produce flexibility, the power of con-
 Comparison of line with column. forming to the exigencies of the situation and the irregularity of the *terrain*—but elasticity, the power of regaining the original shape, the primary formation. The line formation, as the chief feature of our drill, provides us with neither of the above requirements to any extent, but simply gives a rigidity that occasions both slow movement and consequent longer exposure to fire, and also the utter impossibility of utilising cover or suiting the dispositions to the ground. The range of fire has so much increased that everything must give way to rapidity of advance; and while the battalion column is too large, too marked an object to attempt the forward movement without risk of annihilation, the line is so slow as to suffer almost equal loss.* The deployed battalion of

* "But in advancing on the enemy for any distance over broken

infantry is just as deadly an order, if long under fire, as the more compact columns moving from cover to cover with quickness, and presenting but a small front to the adversaries' projectiles. Every artilleryman knows the difficulty of striking a moving object increases with the narrowness of its front, as on it depends the size of the mark aimed at. A battery playing on a deployed line with shell or shrapnel from six well-served guns, will do far more damage than if directed on a narrow-fronted column only occasionally seen, because the chances of hitting are lessened. The power of forming line, and producing if necessary an increased superiority of fire, still remains, and is not questioned; for in defence a well-directed rifle-fire from a line is manifestly more powerful than that from even a small column with its skirmishers, because of the difference of front. But in the attack the conditions are changed. Here rapidity is the chief point; in the former case steady and careful shooting is alone requisite.

Advantage of
the column.

The basis of all strategical and tactical dispositions is the study of ground. No fixed rules can be laid down for the minor movements of a regiment. All we can hope to do is to utilise the drill the men have had in the broadest and freest sense, according to the topogra-

The place of drill
in a tactical
system.

ground, long deployed lines lose their order, fluctuate, and fall into fragments. . . . The same troops moving in columns would preserve their array, and, moreover, would often obtain shelter during their advance, &c."—Operations of War, p. 319.

phical peculiarities of the field. And it is in this more than all else our military system fails. We convert the civilian into a drilled machine, we teach him habits of obedience and discipline, we make him move with regularity at the word of command, and there, at the very point where his true education should begin, we leave him. How to utilise cover, how to occupy a village or a wood without the risk of being cut off or captured, how and when to make the rush forward that brings success, or the retreat that prevents disaster, is, to the mass of the English soldiery, a sealed book. We have taught him how to spell, not how to combine his words, his details of drill, when the time arrives. The true soldier's art only begins at this point, never ends there. What better example can we take than the battles of General Chanzy around Le Mans? That there is individual courage on the part of the French people, who that has read their history can doubt? But before the skilled soldiers of Germany, trained in the power of recognising the moment when the rush was to be made successfully, the infantry were helplessly surrounded, field after field, village after village. Mere drill, the details of a simple movement, are of no great moment in the field. In rough broken ground the accurate deployment of a line, or the actual continuity of the regiments, are even now recognised as impossible. But the deployment is still carried out in a very rough practical way, probably, and the men recollect only the general principles, not the details, of the drill-book. Thus all mere parade-work is equally

valuable for training the soldier to combined movement, equally valueless if pedantically insisted on in the field.

The necessary irregularity in the front of a line of battle, even according to our present ideas, is fully seen and permitted, and intervals become just what the ground makes them. Extend this principle of breaking up the front into a system, and further, give the units greater power of rapid movement, and we obtain the end we seek—a series of fractions, differing in strength as the ground differs, covered by their own skirmishers, capable in themselves of producing a deadly overwhelming fire, which would sweep like the redoubts of a modern line of fortification the intervening ground, and forming thus a line of battle of greater longitudinal extent, afford more completely the power of facing the numerical superiority a Continental army would in all probability possess, and also of preventing that overlapping of the flanks to which a small force closely concentrated would be inevitably exposed.

Such a system is applicable to the courage and temperament of the English race ; it remains but to train the soldier, to make it *possible* too. Its extraordinary handiness, and the power of utilising the individual skill of officers, was admirably shown at Kissingen in 1866. Probably no more cumbrous formation could have succeeded in passing as rapidly as the company columns did the little river Saale. The points of crossing were few and the river unfordable,

still the company columns forced their way across, and their trained independency of action enabled each to move without delay. According to our system, the units of the battalion would scarcely be justified in such a course. The line, in its very character, is a thing of the past, a formation only useful when countries were less enclosed and cultivation or fences less numerous.* Omit altogether the danger of the slow advance of a line, of a *red* line more particularly, offering as it does a clear defined mark of great lateral extent, and we are still met by the impossibility of moving such a body over intricate land. The numerous quotations made are all in favour of the view we advocate; and constantly bearing in mind the probable numerical inferiority of the army we should put into the field, it is very essential we should adopt such a formation as shall extend our line of battle, and, without weakening it, give us the power of making a flank attack.

The distribution of our front line in a series of small columns, either of companies in columns of sections, or battalions in half or quarter columns of companies, will afford us the means of attaining our object, for they will admit of rapid movement and of flexibility of the general line; and, owing to the greater development of rifle-fire in modern times, their contact one with the other need be less close,

* "Therefore obstacles of ground which forced lines to make circuits to preserve their order would not stop columns, which could therefore be directed with greater certainty on required points."—Operations of War, p. 323.

—the danger of this apparently disconnected front being counterbalanced by the increased power of the weapon with which our infantry are armed.

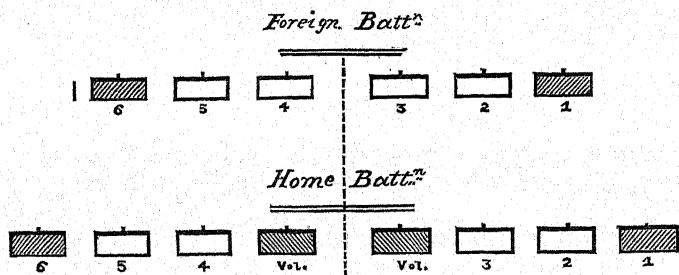
The battalion of 1000 strong formed into ten companies seems to be too much subdivided to be readily available for this formation, and the units composing it too weak. If it were organised into six companies, thus forming two half-battalions of 500 men each, it would be sufficiently well officered, be less expensive, and more pliable. The flank companies should be differently constituted from the others; and again our argument is founded on the question of infantry-fire. Notwithstanding the skilful training in shooting that all our men undergo, it is nevertheless true, that though all have been so instructed as to be fair marksmen to a greater or less degree, this, like all other matters of skill, is a *spécialité* in which some, from natural aptitude or taste, far excel all others. It seems that greater use can be made of this power by forming selected companies containing these "picked shots," which would form the most useful and most formidable body of skirmishers, and further render each half-battalion independent of a covering force.

Another advantage is gained by this plan in the English home army; and by this we mean that army which, composed of line, militia, and volunteers, would be assembled to resist the invasion of a foreign power. The volunteers, while constituted as they are at present, and drawn from industrial and other classes, which prevents the possibility of their having

sufficient *regular* training to enable them to take equal place with the regular troops in line of battle, are nevertheless, to a very great extent, better marksmen than the privates in a regiment. This is partly due to their better education and intelligence as a body, and partly to their not unnaturally displaying greater zeal in the more interesting portion of their drill. Time, which they cannot well afford, is required to convert the volunteer battalions into reliable machines; but the time they *can* spare has been hitherto expended in furnishing, as a class, some of the best "shots" that any country can produce. Increase, therefore, this readiness to form such material as composed the riflemen who first checked the course of British arms in the war of American independence. Utilise this power by retaining them as bold and skilful skirmishers only, and devote the brief time at their disposal to instruction solely in company drill, to give them cohesion—"light drill," to enable them to employ effectively the power they possess—and such a small amount of battalion drill as will teach them combined movement. In fact, for the home army employ them, in the eventuality of an invasion, as the flank companies of the regular army.

This would give us power of ready expansion, while at the same time we were employing the citizen force and bringing them into closer habits of discipline. Each battalion of the line for foreign service would contain six companies, or two half-battalions of three companies each; the home battalions

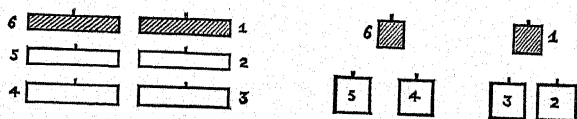
would be composed of eight companies, only two of which would be volunteers.



This would obviously constitute the home and foreign battalions differently, but this does not appear to be a material objection. This method of adopting the company column principle has the very great advantage of necessitating no alteration in the drill. Already the half-battalion is a recognised tactical unit. Form the battalion in column of companies in rear of the two centre ones, and two smaller bodies are formed ready for divergence when the necessity arises. Till that divergence takes place, the lieutenant-colonel commands: when it does occur, the majors assume the direction, and the colonel exercises a general supervision. Finally, when a further subdivision is becoming necessary, the companies form columns of sections, and advance in line of these columns till the final breaking up of the battalion; and the responsibility, which must inevitably be given at times to the captains, commences.

The impossibility of retaining control over even so

large a fraction as a half-battalion has been exemplified on many Aldershot field-days. When regiment after regiment has been forced into a wood occupied



by the "enemy," all power over them has been lost, and they have emerged on the further side a mixed and scattered mob, without order, officers, or organisation. What is the cause of this? Simply, that in such a case the company officers, irrespective of their want of special training hitherto, are placed in a new and unwonted position. They have never been taught individuality, or allowed it, and they fail to exercise it, therefore, where above all things it is wanted. They have been instructed to look on the commanding officer as always the guiding force; and he, in his turn, has never shown a willingness to resign those reins of power so essential to be kept in hand at times, but in the instance we have quoted perfectly impossible. The only means of guiding and retaining control over these scattered skirmishers is to adopt a system that gives the subordinate, when necessary, power to direct, and accustom the men themselves to its exercise. To this end, we must educate our soldiers to the knowledge of that discipline on which such control is dependent,—not the mere mechanical discipline of the drill-ground, but the higher training of complete obedience to their leaders, as

men capable of really directing them by superior intelligence and skill.

The Subject continued.—The Formation, Combination, and Employment of the different Arms in the Attack.

Since it would require considerable space and time to consider the modifications which varied circumstances of ground would produce, it is assumed that the ground is such as would ordinarily be met with in any civilised country. A range of heights occupied by the enemy, an undulating area at their base, cultivated, enclosed, dotted with villages, farms, and woody coverts, and intersected by roads or by-paths.

The further assumption made is, that the army on the march has obtained information of the actual presence of the enemy, and, consisting of two corps of three divisions each, has been moving on six roads, a division on each road, when the engagement of the advanced-guards with the hostile outposts necessitates the breaking up of the columns of march and the formation of the order of battle.

We have to consider, then, two points :—

- (1.) The conduct of the advanced-guard.
- (2.) The dispositions of the main columns.

The intention of the former force in the present instance should be that of holding its ground without compromising its safety: a definite action is decided on, and the enemy has to be attacked. The object of the latter bodies is to execute a more or less concen-

tric attack; but whether this is to be attempted on one or both flanks, the study of the map and the reconnaissance made at the commencement of the battle by the staff can alone determine; but in addition to the main reserve (to be afterwards detailed), a certain fraction, complete in all arms, must be appointed, with the view of a semi-independent action, and which will not take part in the direct front attack. With the small force at our disposal, probably only one flank could be thus threatened, the assault of the other following as a natural consequence on the concentricity of action developed during the battle by the remaining divisions.

We have six divisions to deal with; and it is supposed that the character of the country, its roads and powers of affording concealment, leads to the determination that the enemy's left can be most readily turned. The right division, No. 1, will therefore, at the first sound of the engagement of the advanced-guard, diverge by convenient roads, making a detour sufficiently extended to take it beyond the immediate effect of the battle, with a view to its final co-operation later in the day.

The advanced-guards, constituted as on page 340, immediately cover the roads on which they are advancing to protect the head of the columns. With each the leading half-battalion inclines to its left, but still keeping close to the road, the other half moving off the road, and forming on its left at deploying distance, with due regard, however, rather to cover than interval. The regiment in rear breaking into half-battalions, occu-

pies in a similar way the right of the road, the whole front being covered by the light companies skirmishing; and the battery, now united, has then the road clear for movement to take up such a position as the ground may determine. The skirmishing line is gradually reinforced and extended by the battalions, which form their own supports and reserves, which, if necessary, seek the protection of cover.

Meanwhile the main columns are taking up their tactical dispositions. The leading brigade of each will open out into a line of battalions at deploying intervals, in double column of companies on the centre, so as to admit of the ready subdivision into the smaller units when they enter the zone of fire. Regular distances may at this stage be more or less kept, but at no time should this be done at the sacrifice of security; and advance even now under cover may be desirable if the enemy's artillery is well served. This will form the second line, finally to be dissolved into the self-supporting fighting line, which allows of the development of the infantry-fire. The rear brigades will simply open out for convenience of movement into a line of battalions in close column, regardless of intervals, and keeping only at such a distance from the front as will insure to them the power of rapidly supporting the leading brigades.

We have already assumed in previous pages that the greater portion of the light cavalry has withdrawn from the front, and by a short detour has gained the rear of the army. They should now form two bri-

gades, one in rear of each flank, and unite with the brigades of divisional cavalry, and take up a sheltered position till the general advance of the line of battle will enable them to approach somewhat nearer without suffering unnecessary loss. The employment of this force necessarily undergoes modification if the ground is well suited for their action, as in that case the enemy would probably be covered by a strong body of the same arm, against which the divisional cavalry might be usefully employed at this early period of the battle.

The artillery reserve has been marching in rear of each corps, and inclining, when possible, to the outer flank, advances with the line until the front has become so far engaged as to admit of its movement without danger to points further on the flank, which may enfilade the enemy's position. It need not of necessity remain close to the columns. The front is already protected by the thirty-six guns of the advanced-guard, which have already opened fire from all convenient points in rear of it. Two squadrons of cavalry and half a regiment of infantry should be attached to this artillery reserve for its protection. There is no reason as yet to materially strengthen the artillery-fire in front, but during the advance the most advantageous points for occupation by the divisional batteries will be gradually determined on, and towards these the artillery now marching on the roads slightly in rear of the brigades will be directed, care being taken that with the flank columns the positions chosen should be towards the outer flanks.

Finally, we have to examine the question of a reserve,—and the principles of its use appear to be somewhat different from those of the older wars. The range of firearms has so much increased, that for it to remain within supporting distance of the front is but to submit to the certainty of loss in very many cases. No large body would be able ordinarily to find such shelter as would keep it intact and unhurt during its period of inaction. The fighting line must seek its reserves locally in the small bodies assembled at protected points by the officers. It must seek to be self-supporting, because the natural tendency of a reserve massed under our existing ideas would be to seek shelter, from the losses it must experience, in the fighting line itself. Still a reserve is as essential now as heretofore, to preserve that confidence and feeling of security on which *morale* depends, but it should not be used for the battle, and be so posted as to cover a retreat in case the necessity arises.

And here let us make a brief digression. The advantage of such a reserve, complete in all arms, is of course only theoretically apparent. No example of its use can be taken from the last war, for the French rarely showed a disposition to make any offensive returns, and at no time was the long attacking line really threatened with a dangerous reverse. But the campaign that terminated practically at Sadowa might have had a very different ending had the Austrians been able to make successfully a return blow. That long line of Prussian skirmishers, for it was little more, could not have utilised, with the effi-

cacy of former times, reserves kept in hand, massed for the purpose of protection, for such large bodies could not have been retained within easy supporting distance. The tendency of all modern fighting is to extend the line of battle, and therefore make that line dependent on local reserves—that is, reserves formed at points affording cover and protection. With a small force such as ours, all means, however tending to give it confidence and promote its security, must be considered ; and retreat from so scattered a battlefield would be attended with ruin, unless there was still some firm obstacle preserved intact in the enemy's victorious path. Recognise first that the deadly effect of modern firearms renders close formations, and even close contact, impossible, and then consider whether a defeated army retreating on so wide a front could possibly hope to reunite its extended columns, unless time is afforded them to concentrate again. This time would alone be given by a reserve, which, acting as a rear-guard, and almost as a second army, composed of troops fresh compared with those of a victorious enemy fatigued by a battle, could stem the torrent of pursuit.

Thus, both to protect the weakening of the centre, treated of further on, which is rendered necessary by the overlapping extension of the flanks, and to furnish this reserve, the centre columns will have left halted in their rear their second brigades and batteries. The force will take up as good and as secure a position as possible, and the companies of the rear-guard will, as previously stated, form in line with them.

The entire dispositions will vary somewhat with the nature of the *terrain* and the positions of the different columns, but the flank divisions will early seek to extend divergently towards their outer flanks, and as they approach the front occupied by the advanced-guards, the divergence to carry out concentricity of attack will become more essential and more apparent. There would be no immediate necessity for withdrawing the advanced-guard of the right (first) division. It would cover and protect the early flank march of this column, and would be reinforced by the gradual edging off of the second division towards it. The movement of the independent column is essentially to be rapid, and undisturbed by the main attack; and the leading half-battalion, supported by two squadrons from its own cavalry regiment, would form an advanced-guard sufficient for all purposes. Like the ordinary marching column, its front would be protected by its own cavalry.

Thus summarising the dispositions made, we have:—

(1.) An advanced-guard in skirmishing order, with the guns of six batteries to engage and check the enemy.

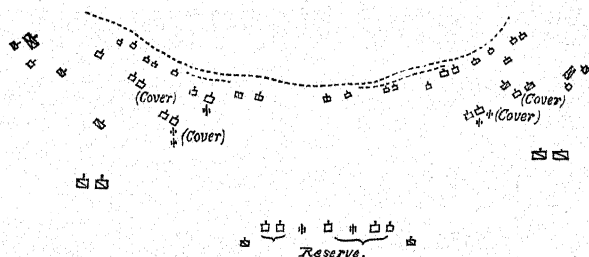
(2.) A line of regiments in half-battalion columns to support it, and providing for the concentric extension of the line by such divergence towards the flank as the nature of the cover would direct. These battalions need not lose sight of one another, but would not of necessity be at “deploying distance.”

(3.) A supporting line of battalions in close order, to act as local reserves and feed the fighting line.

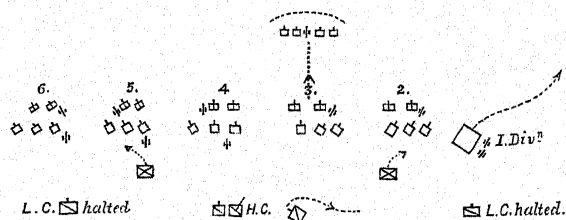
TABLE VI.

2d Period, showing

The fixed Reserve. The positions aimed at by the Artillery.
The formation of Local Reserve of Infantry and Artillery on the flanks.



First Period (one Adv. G. shown).



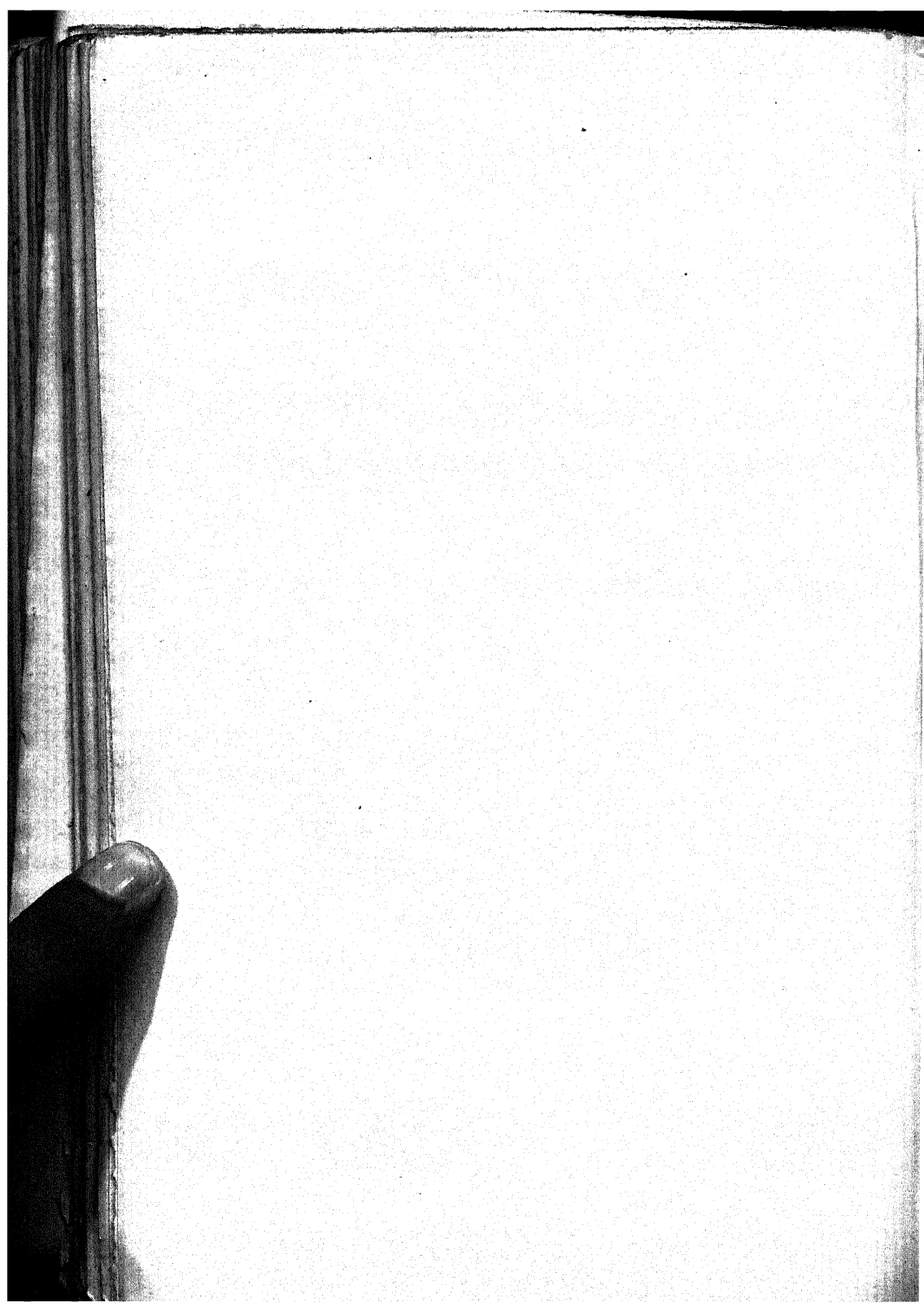
Non. Combatants &c.

Reserve Artillery.

„ Cavalry.

„ Infantry.

„ Battery.



(4.) The reserve artillery and the batteries of the flanking divisions diverging to the flanks, where their operation will be most effective.

(5.) A reserve of all arms permanently established on the field, with a force of cavalry in semi-independent reserve, to be utilised for retreat or pursuit *only*, as a general rule; the exception being that of an open country, where infantry might be really exposed, through want of cover, to the action of that arm.

(6.) A division acting independently, but in combination with the general attack, moving against the enemy's flank by a detour.

In all the instances already examined, and in those
 The value of yet to be discussed, a large force of artillery.
 artillery has been employed, and for the following reasons :—

(1.) Because of the moral effect of its fire and its great range. In our army the proportion of artillery should be large, to supply our known deficiency in infantry, and also because of all others it is least of all the arm that can be extemporised in war.

(2.) Because when both infantry and artillery are equally good in *personnel* and *matériel*, mutual benefit is derived from the presence of a large number of guns.

All that is needed is the tactical rather than the technical training, and the want of it in our own service can scarcely be laid to the charge of the Royal Regiment. Opportunities of gaining practical information on the tactical use of the arm have fallen to the lot of few. The autumn manœuvres of 1871

gave to many their first chance of moving batteries in connection with a large force of infantry under some of the conditions that apply to actual war, and there too was at last given that individuality of action which alone can bring out the full powers of a battery. The true use of artillery, its power and its peculiarities, are matters to understand which requires special training as well as experience; and the officer of artillery is the best judge of how to carry out in detail the principles embodied in the orders of the general.

In its use on the field it becomes more than ever apparent that its position is not, generally speaking, in the centre of the line, where it is both in the way of the infantry, and is itself inconvenienced and masked by it. The fire is not so effectual on the enemy's masses, still less so on a broken line: no direct fire ever is. On the flanks, acting so as to give an enfilading fire, is its true place; while it is more secure, and sweeps the space in front of the infantry columns with greater effect. The convergency of fire, again, is better preserved, for its obliquity of action on the enemy's front produces the concentration of fire necessary. A battery may be justly considered as only useful when halted for every movement; every time it is limbered up to advance, is so much taken away from its offensive action. Well-selected positions on the flanks would be less interfered with by the gradual advance of the infantry; and the changes of position which, considering the great range and accuracy of modern guns, are but waste of valuable moments, would be rendered less frequent. The tendency to

get nearer the enemy shown on field-days not merely checks the steady fire, which may at the very instant of changing ground be producing its most decided effect, but tends to dangerous exposure, and perhaps disablement, by approaching within range of the enemy's rifles. This is a fault that would perhaps correct itself speedily in actual warfare.

It is not insisted that all the batteries should act in the way above suggested—some few must necessarily accompany the centre in its advance; but the rule should be *that* movement which, while taking the guns out of danger from the infantry-fire, gives them greater scope, greater extension of view, and less fear of attracting a concentrated fire, which would affect the infantry line as well as the artillery batteries. In fact, the more within limits the guns are scattered, the greater their security. Some few of the divisional batteries in the centre might, like the local reserves, be kept sheltered till the final assault is determined on, and when they might risk the danger, for the sake then of the value of a heavier and closer fire of heavy projectiles. It is not intended that the artillery is to run no risk—that would be under all circumstances impossible; but rather that the principle of preservation of a valuable arm should be regarded as an important portion of the duties of the battle. The object of artillery is to destroy or break the enemy's infantry especially. From that infantry, therefore, should the guns be distant, so as to do their work more thoroughly.

The time for sacrifice is only when the day is lost.

Then let gunners do their bravest, and risk all to cover the retreat and check the victorious legions.

The time for rapid movement and for quick advance is in the pursuit, when the continual destruction of the disorganised masses is necessary in order to reap the full fruits of victory.

Of the value and use of cavalry but little remains to be said, for the principles most applicable to it have to a great extent been foreshadowed in previous pages. But for the sake of continuity of description, it will be well to refer briefly to it again.

In the field of battle, save in those rare instances which afford but little precedent, their place is rather in reserve, kept well in hand and protected by the nature of the ground, than in the front of the action.* When infantry has been broken by the enemy's cavalry, an occasion of infrequent occurrence, it would of course be required for employment against that arm. The escorts, with guns of Royal Horse-Artillery, would necessarily still be composed of cavalry; but these batteries rather accompany than follow the mounted corps. What is sought to be established is the retention of the *gros* of this force for the work they are best fitted to do, and which no other arm could successfully perform. Every branch of the service has its own especial duties. Cool infantry have nothing to fear from horsemen; cavalry have everything to dread from the deadly rifle-fire.

* "The cavalry division (at Woerth), which, on account of the difficult ground, which allowed little scope for its manœuvres, had been left at Schonenburg," &c.—Semi-Official Account communicated to the German Press at Berlin.

But when the end is come, when the action is decided one way or the other, the cavalry have their duty to perform, second to none in importance; for on their dash and ability depends either the disintegration of the retreating force, or the preservation of their own army from utter ruin.

How brilliantly the former duty can be performed is better exemplified by the action of the Prussian cavalry after Waterloo than by any modern instance. How effectively the latter principle can be carried out, and how great is the protective power of cavalry to cover a retreat, is most clearly shown by the self-sacrifice and daring of the Austrian squadrons after Königgratz.

Finally, we have to examine the employment of our force; and again, taking the reasoning previously used, let us consider the character of the battle from the moment when the outposts, stationed somewhat as suggested at p. 365, are assailed.

Employment of
the force during
the action.

The advanced-guard has been engaged in a desultory skirmish with these posts. It has simply held its ground hitherto, but the approach of the main army has brought its front line within reach of the enemy's projectiles, and it is necessary to make dispositions for a more determined contest.

The battalions of the advanced-guard now form a complete skirmishing line, supported by the half-battalions of the first line, which, moving into company columns—except only where there is evident weakness in the opposition, or where the cover is

sufficient to protect the larger units—forms a line of company supports and local reserves. In all cases the light companies lead, and are dissolved into the increasing skirmishing cloud, as necessity requires; and these gradually advance on the outposts, and even now diverge to the flanks, so as to turn these minor positions rather than assail them directly. The front of a post is always carefully prepared; the flanks to a less extent; and the rear scarcely at all. The front attack, therefore, is always dangerous, generally unproductive of result.* The local reserves should always seek cover, and open fire if the enemy can be seen; and where the presence of a more determined opposition indicates a strongly-held post, even the supports may, to avoid loss, resolve themselves into the fighting line in small bodies, and extend it concentrically to a flank. The reserve then becomes a support, and may send forward a company, if it can be done without needless exposure.

The second line of the main body is now advancing. If it remained in rear it would be out of reach, and only receive the projectiles intended for the first line. It should aim essentially at seeking cover in any formation that affords the greatest protection. Still its divergence to the flanks should be marked more especially towards that one not threatened by the detached division. Only the commanding officers of the centre

* In the case of the outposts before Paris, an attack was made near Montretout by the French, in which they attacked *directly* the garden-wall of La Bergerie with great valour and persistence, but with no result. The flanks were somewhat less dangerous, and could probably have been successfully turned with much less loss.

divisions should seek to prevent its becoming so extensive as to altogether separate the right and left of the line of battle, though this may be weakened to a very great extent. In fact, the action should begin to assume the arc of a circle, of which the arms are considerably stronger than the centre. The cavalry merely advance from cover to cover, keeping well in rear of the line; and an officer, especially detailed for the duty, would remain as near the front as possible, so as to observe the course of the action, and determine when it was necessary to bring squadrons to the front.

But after a time the battle again assumes a different character. The effect of the fire of the batteries now in position on the flanks should have shaken the enemy's line. The infantry, steadily advancing, never indulging in mere waste of ammunition, have approached near enough to the range of heights to attempt a more decided effort to close with the enemy.

The batteries detained unexposed as far as possible in rear of the divisions move rapidly to their front, and add their direct fire from all available points to that of the enfilading guns. The local reserves, if skilfully massed, especially towards the flanks, where also they would be less exposed, could now be utilised, with the view to independent action, and moving by a slight detour, might be made to act decisively against the enemy's right. In no case that can be conceived would the whole of the second line of the main body be merged into the fighting line, though it *must* occur at points where the losses to a support

would be so severe as to cause demoralisation. At many points there would be available bodies of reserve, which the mere fact of the forward movement had brought within the scope of useful employment, and which had not suffered by being kept merely in reserve at a distance, submitted to all the losses, without the excitement that tends to keep up the fighting power of the men.

But if the ground has been well prepared ; if the slopes are bare of cover ; if the enemy has reserved his principal fire, his determined effort of resistance, to the last,—even small rapidly-moving columns will seek in vain to cross that fire-swept glacis.* If these could not brave the dangers of the assault, how much less could the slowly-advancing line ?

Here we must not fear to take the experience of the German leaders ; and in this case the following method is entirely based on the arguments used by the Duke of Würtemberg in his pamphlet on ‘The System of Attack of the Prussian Infantry in the Campaign of 1870-71.’ It is impossible to do other than avail ourselves thus of the opinions of others, provided only they are based on sound reasoning. War must be learnt from war. The experience of other nations, since we ourselves have but few chances of gaining any practically, must be utilised for our benefit. It is only by recognising the value of the exploits of

* In the attack on S. Privat it is stated that “even at a distance, of more than 1500 paces the effect of the enemy’s (French) fire was so murderous that nearly 6000 men fell in ten minutes, and the advance had to be discontinued.”—Würtemberg, p. 17.

foreign powers that we can venture to alter systems that in our own campaigns have produced success.*

The principle is based on the "skilful conduct of offensive fire-action"—that is to say, on the deliberate careful advance of successive opened-out lines of infantry, who, moving in successive waves, utilise at each halt the cover they have attained to produce a most carefully delivered fire. The line of battle has become a vast skirmishing cloud, or series of deep irregular lines, dependent more than ever on their local reserves and the coolness of their fire, and still seeking to gain ground towards the flank.

The half-battalions, and even the companies, can find no security from the enemy's projectiles in any formation at all at some points, and the distance to be traversed to close with the position is too great for further advance to be possible except in the loosest of orders. Hence the front line, composed of the original advanced-guards, and the front line of the main body, now completely dissolved into skirmishers, pushes rapidly forward to a secure line of cover. In this movement, wherever shelter can be obtained to cover the rush it is immediately taken advantage of; wherever the ground is open, no other formation but that of skirmishers is permitted. The limit of the rush forward appears to be decided by the men themselves; it would be useless for them to reach the foot of the position wearied by

* "The losses increased disproportionately when positions were densely occupied. The power of attack did not consist solely on the mass of the assailants."—Würtemberg.

a too rapid advance. Short rushes forward in successive lines, either interchanging the first and second alternately to the front, or continually keeping in regular order of lines, would gradually bring the attack nearer the enemy—care being taken, however, that local supports should be formed on every available occasion from out of the fighting lines.* Those battalions of the third or reserve line of regiments which had, through the protecting nature of the ground, been able to retain a specific half-battalion or company-column formation, would still advance to the point where the dangerous zone of fire commenced, and thus in the final assault we should have somewhat the following order :—

(1.) An irregular dense skirmishing line, composed of the original advanced-guards, the troops that reinforced them, and the supports that had, through want of cover, strengthened the front.

(2.) A second line, similar in character to the first, composed of the supports hitherto preserved more or less intact in company columns or otherwise. On the flanks of this, wide of their immediate action, and probably rather in rear, are the reserve artillery and the divisional batteries of the more flanking columns.

(3.) A series of irregular groups where cover admits of forming local reserves, and near them some of the

* The selection of these supports, and the ground they should occupy, would be the primary duty of the brigadiers. Probably the half-battalion would be the most convenient form in which to keep them, and from the beginning the supports of the front skirmishing line should only be pushed forward by degrees to feed the fighting line under their direction.

batteries of the centre brigades, now pushing to the front to add their fire till the moment of actual assault.

(4.) Farther in rear the fixed reserve, with the brigades of cavalry; and pursuing its outflanking march, now bringing it within reach of the position, and causing its effect to be felt, the independent division on the right completes our concentric cordon.

The character of the advance throughout has been to sweep the wings forward at the expense of the centre, which has been comparatively stationary, and which now consists of little more than a weak line. But this recognised and organised disunion is not so dangerous as at first glance it appears. What enemy would dare, in the hope of piercing the centre and of availing himself of this seeming weakness, to place himself in that vast re-entering angle, between the arms of that terrible cross-fire? That seemingly scattered line has by drill been trained to expect such an eventuality, and is prepared to meet it with coolness, to reunite if necessary into small compact masses, and, moreover, to deliver a well-directed accurate fire. "The Prussian commander of a company can let his men extend or open out without anxiety even on ground offering the greatest possible amount of cover." *

At Le Bourget,† such a case as we have imagined was met with, and the difficulty overcome. The successive waves of attack, so to speak, rushing for-

* Würtemberg.

† 30th October 1870.

ward until cover was attained, and then immediately availing themselves of it, to protect by their fire the equally rapid advance of the opened-out supports, carried the positions of Blanc Mesnil and Dugny, breaking into the long villages both from their flanks and rear.*

It is only by such means, apparently, that infantry-fire from a strong defensive position can be successfully encountered. The small reserves kept in hand on the left flank in the instance we have imagined for discussion, will now be directed against the enemy's right; and having kept pace with the advance, and being therefore within striking distance, they will readily be at hand for such employment; while the independent division, operating on his left, will by this time have become fully engaged.

The final moment of assault will be well delayed till this force has opened its fire; and with ordinary calculation, the moment when it will probably do so can be ascertained with sufficient exactness. All questions of strategy, and to a somewhat less degree tactics, are matters of time and calculation. Without them no combined movement would be possible, and military art would resolve itself into the matter of chance, which all our professional history shows it never has been.

This system of attack has proved successful against most difficult positions. The vast experience gained

* "The mechanism of the attack consisted principally in the rapid change from open to close order directly the most trifling cover admitted of the rallying of a subdivision or company."—Württemberg.

by the German armies in the late war—an experience never, even from day to day, allowed to rest unfruitful—led them to adopt it as the very best. Further battles could alone prove if any other would be equally advantageous. Certain it is, that the danger from modern fire is so enormous that no other plan could effect better or even equal results with less chance of loss; and experience purchased against the lessons of 1871 may be very dearly bought. Now it is that the cavalry would be required, and at this juncture a certain proportion of it should be brought under cover to the front. If beaten back and disorganised, the retreating columns may require support; if victorious, the time when cavalry must be unsparingly used to reap the full fruits of victory has arrived.

Lastly, what do we gain as an army by this principle of extension, which follows the use of small flexible units? The very object so necessary for a small army, but one which at the same time is based in its very essence on making it the most skilfully trained and most completely organised machine. Not the most thorough partisan of peace can desire other than to see our defensive force thus constituted. We gain the power of enabling small masses to act in most cases against larger ones. One of the most noticeable points in the battles in France is, that the Germans occupied the ground much more thinly than the old rules advised. Twenty thousand men per mile were formerly considered necessary to defend a line with success; but a much smaller proportion

compared to the extent of ground was found to give strength and security in the actions of 1870-71.*

But it may be argued, in answer to this, that similar cases may not occur again—that with both armies equally skilful and well handled, battles would again be placed on the old footing. Even so. But that does not destroy the value of the system. Acting on our present principles, and the enemy on those which have proved so successful against tactical formations near akin to ours, we have the history of the continued defeat of the French to prove that our chances of victory would be doubtful. Place us on the same tactical footing as nations who have put their theories to the practical test of war, and then, should we have to fight, it becomes again a question of fighting power and national courage. In the earnest belief that we as a race possess these characteristics, no Englishman would desire more.

It is more than difficult—it is almost impossible—to enter into this question of attack without examining in detail the direct influence the local features of the *terrain* will have on the tactical movements of the army corps. All that has been attempted has been to point out that a connected line is too cumbrous and

* At Saarbrücken, the Prussians with 42,000 men extended over about 6600 yards, or 5 men to the pace (German). At Querrieux, Manteuffel had 25,000 men to about 5 miles, or 2 men per pace. At Orleans, Frederick Charles with 100,000 men counted at first about 2 men per pace. At Le Mans, the 3d Army Corps with 16,000 men occupied 8000 paces. At St Quentin there were at first 6000 men to about 4 miles, and at the end 30,000 men to about 9 miles, or 3 men to 2 paces.—Würtemberg.

inflexible to move quickly, obtain cover, or utilise to the fullest extent the value of infantry-fire. The extension of the line of battle and the independent action of small units, appear to carry out these requirements, and enable turning movements and flank attacks to be executed by the very tactical dispositions of the battalions.

Mode of Combining and Employing the different Arms for receiving the Attack of an Enemy.

One question only remains for our consideration; and as the principles of a tactical system, which experience has shown to produce great results, have been already very imperfectly argued out, we have but to see how its undoubted flexibility can be adapted to the defence of a position.

In doing so, we may gain some enlightenment from the system of attack which we have just endeavoured to illustrate. Briefly, it is that modern attack is rather flanking than direct; that the danger to the defence lies in the concentric advance of the enemy, and the direct action of one of the greater fractions of his army; and that the intelligent use of cover will prevent the full power of a close and searching fire from the position being felt till the assault is imminent.

We gather from this the following theories:—

(1.) That the defensive line must be as extensive as possible, to prevent the easy overlapping action of the enemy's front line.

(2.) That means must be kept intact to resist, with

fresh undemoralised troops, the flank attack of his semi-independent force, and impart vitality to the defence by offensive returns.

(3.) That the fire to check the advance must be a long-ranged, crushing, and searching one.

(4.) That to resist the assault troops must be retained in hand; that at that moment the fire should assume its most deadly, continuous, and biting character; and that means must be provided to still further shake the assaulting columns if they fail in their effort, and even follow up the advantage gained.

It is no easy matter to suggest how all these requirements can be met; and here, again, the difficulty of having to consider the exact nature of the ground most forcibly presents itself. Primarily, the careful preparation of the position demands most serious attention. The only way of occupying a lengthened position is by increasing the power of the natural obstacles, so as to equalise, as far as possible, the tactical value of the entire line; to strengthen the naturally strong fronts, so as to make them defensible by a weak force, and to increase the defensive capabilities of the weaker portions. So much depends on the character of the position, its natural strength, and the cover afforded to the assailant by the area in its front, that the only way apparently of recognising what features are most dangerous to the defence is to examine briefly the enormous power they possess, and the advantages they afford to the attack.

Let us once more seek for examples in the last war.

In the battle of Weissemburg, the storming of the

Geisburg was rendered feasible by the terrace-shaped ascent of the hill, "covered by unmown fields"—that is, cover was provided by banks and herbage.

At Gravelotte, the wood of Genivaux afforded protection.

At Spicheren, a wood in front of the position was quickly gained by the Prussians; and in every instance in which "wood fighting" occurred between the hostile forces, the superior skill of the Germans in availing themselves of this species of cover invariably enabled them to force the enemy back. It has been said, and apparently with justice, that the Prussian infantry never *touched* a wood in the occupation of the enemy without very speedily clearing it of its defenders.

Hence we see that it is all-important to keep a space clear in front of the "position;" that the main object of the preparation should be the destruction of such cover as would bring the enemy within easy distance; and also that, as many positions held by the French were overlapped by their adversaries, even when comparatively small in numbers, owing to their principle of concentricity of attack, as opposed to the system of massing the brigades for the defence, it is essential that as much ground as possible should be taken up—*e. g.*, at Rezonville and Mars la Tour, five army corps of the German army engaged for an entire day an enemy scarcely half their strength.

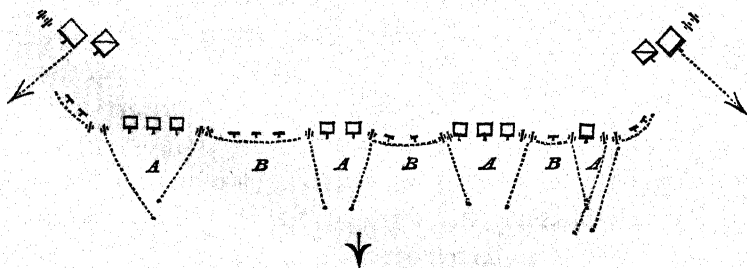
Dealing with the requirements of the defence we have enumerated, it seems that the dispositions best suited for the exigencies of modern war are as follows:—

The whole front of the "position" should be occupied by a skirmishing line, formed of the light companies, supported by half-battalions at the exposed parts, which will reinforce it at these points by their leading companies, the remainder availing themselves of cover till the assault is imminent.

The objective points, the dangerous portions of the defensive line, will thus be more strongly occupied by this irregular front line, the remainder being held by the skirmishers forming their own supports.

The second line of battalions, in contiguous columns of half-battalions, so as to admit of rapid movement, are placed under shelter, not at equal distances, but rather in rear of the flank only of these weaker positions. The naturally strong points would, if carefully prepared, require but little assistance, and could be

TABLE VII.



SKETCH—to show the general principle of the defence, by holding the objective points or vulnerable positions A A A A, and almost neglecting B B B. While offensive returns are to be made by the flank divisions, no reserve is shown in the centre. If it were very strong, it needs none; if weak, the first and second line will at this point form the skirmishing, supporting, and reserve battalions.

supported by half-battalions from the nearest brigade. Two strong reserves, consisting entirely of infantry,

cavalry, and horse-artillery, should be massed in rear of the flanks, so as to be ready to take offensive action with one or more of its brigades, and be able to form front against an independent flank attack.

By thus occupying in strength only some portions of the *terrain*, a greater extension of the front would be obtained. Distances of battalions, and the actual number of men per yard, would be perfectly immaterial. The vulnerable points are to be strongly held, and the defence of the whole front would be obtained by the close, carefully-directed skirmishing fire, supported by large numbers where assault was possible.

The infantry essentially remains passive until that assault is imminent, leaving the battle to be fought by the outposts, slowly retreating on the position; for in an enclosed country, where the enemy could obtain good cover, small-arm fire would not be really very effective till the enemy came within short range and within sight. But the artillery, though remaining stationary at the points most suited to its action, would take a more prominent part in the defence. The Royal Horse-Artillery batteries of the reserve would of course be available for rapid movement, when the occasion presented itself, to deliver an enfilading fire, from some favourable position on the flank, on the enemy's advancing line. But the greater portion of the batteries would be permanently established in the front of the position, rather in the re-entering angles than otherwise, though some might temporarily occupy more prominent or even advanced knolls, which would command the roads of approach.

It is on the fire of artillery that the defence must materially be based until the last moment. The enemy, holding the cover of distant woods, trees, or houses, would not be injured by the infantry-fire to any damaging extent; and the action of this latter arm should be reserved until it would be more effective. But artillery projectiles would render all cover less secure. Their greater crushing power would be advantageously used at the early periods of the battle to destroy the value of the cover the enemy are obtaining. Shell and shrapnel will reach men with deadly effect where the musket-bullet would fall harmless.* And hence the fire of artillery should be unsparingly employed from the time the attacking force appears, and, searching every wood and village, seek to do the work that the fire from small-arms would be powerless to do. No object would be gained by massing the guns. The more scattered they are the safer they will be.

Offensive returns are the very soul of true defence; but the direct attack against skilful troops is merely giving to the latter the power of bringing their fire more quickly into play. But direct attack is fatal; †

* In the reports on the mitrailleuse, it is argued that the field-batteries are more generally useful, as the slightest cover affords protection against the bullets, but that with shrapnel or segment shell the fragments can search behind the cover afforded by hedges or walls.

† "The direct offensive blow (of the French) was exclusively resorted to on the part of the defence. With daring courage, great activity, and unparalleled *élan*, densely-massed groups, starting from their cover, threw themselves on the enemy—interfering by their forward rush with their own riflemen. . . . They were forced to retire with fearful loss behind their cover."—Würtemberg, p. 10.

flanking movements by brigades from the reserves should be constantly attempted. The supporting battalions of the second line should be locally employed in the same way if the assault were attempted at one point; and this is one reason why they are placed in rear of the flanks of these minor tactical positions. Where the ground admits of cavalry action, a regiment of that arm should be attached to the section of the second line, nearest the point where it may be employed for use in the defence of any of the threatened ground.

The necessity for resting the flanks of the "position" on points of natural strength is more than ever apparent. In all cases the chief danger lies in the turning rather than the direct attack. Much has been said about heights being carried from the front during the campaigns in 1870-71; but the more these are examined, the more it becomes evident that the assault in front was never successfully attempted till the threatened outflanking movement of the assailing army had destroyed the *morale* of the defenders. It becomes a question, therefore, whether it will not be essential as a fixed rule, admitting of no exceptions, to protect the flanks, when not naturally of great strength, by field-works. With a small army it is evidently only possible to occupy a wide extent of ground by such aid.

The principles we have endeavoured to illustrate are, that the superiority of modern defensive fire admits of a longer position being taken up than former rules advocate. A small force can successfully

hold a long line by a judicious distribution of its force ; and the thin skirmishing line, while concealing the nature of the defensive arrangements, is itself, from the power of the breech-loader, capable of strong defence. The disposition of the force is that of a series of large masses occupying the important points, and covered by a thin cordon—these masses being held opposite the vulnerable parts, and ready, by their flexibility of movement, to defend rapidly the threatened district. The infantry-fire should be reserved for the moment when it can be used with certainty, and not be wasted, with small chance of hitting, against those small bodies of the enemy which, gliding from cover to cover at first, must eventually expose themselves.

In the attack, the artillery divergent in position is convergent in fire. In the defence, it is more equally distributed.

We have very imperfectly, but very earnestly, endeavoured to examine these great questions on which the usefulness of our army depends. The object aimed at has been to gather from the experience of others how greater flexibility can be imparted to our fighting force. So extensive a subject can only be dealt with successfully by those who have had greater practical experience than the writer can lay claim to possess.

And now, in conclusion, let us consider how the best system of field manoeuvres can be practically tested. It is far from an easy task to point out on paper theoretically the great principles that produce

great changes. An inventor cannot trust to theory merely for the perfection of his invention; he must put it to the test, and learn from practical working not only how far his own opinions have to be modified, but hope to gain, as he is sure to do, fresh information, newer trains of thought. One more quotation, for which its applicability to the question at issue must be the apology, will point out the truest means of learning. Though written more than six years ago, it remains as applicable to our own day of earnest inquiry into military art as it did then. "The reader will have noted that all important changes of organisation have been made in intervals of peace, and that the place has been a camp of instruction. It was in his Silesian camps that Frederick worked out his system, taught it to his generals, and brought it to perfection. It was in the camp of Vaissieux that two marshals of the old *régime* devised and taught the newer methods which the French Republican armies so successfully put in practice against the inheritors of Frederick's tactics. It was in the camp at Boulogne that Napoleon modified the new system, and prepared the French army for the triumphs of Ulm, Austerlitz, and Jena. As in the past, so in the future it must be for armies, before new wars shall find them still fettered by obsolete customs and traditions, to adapt themselves, as the weapons with which States guard their honour, independence, and prosperity, to the altered circumstances in which they must operate."*

* Operations of War, p. 399: Col. Hamley.

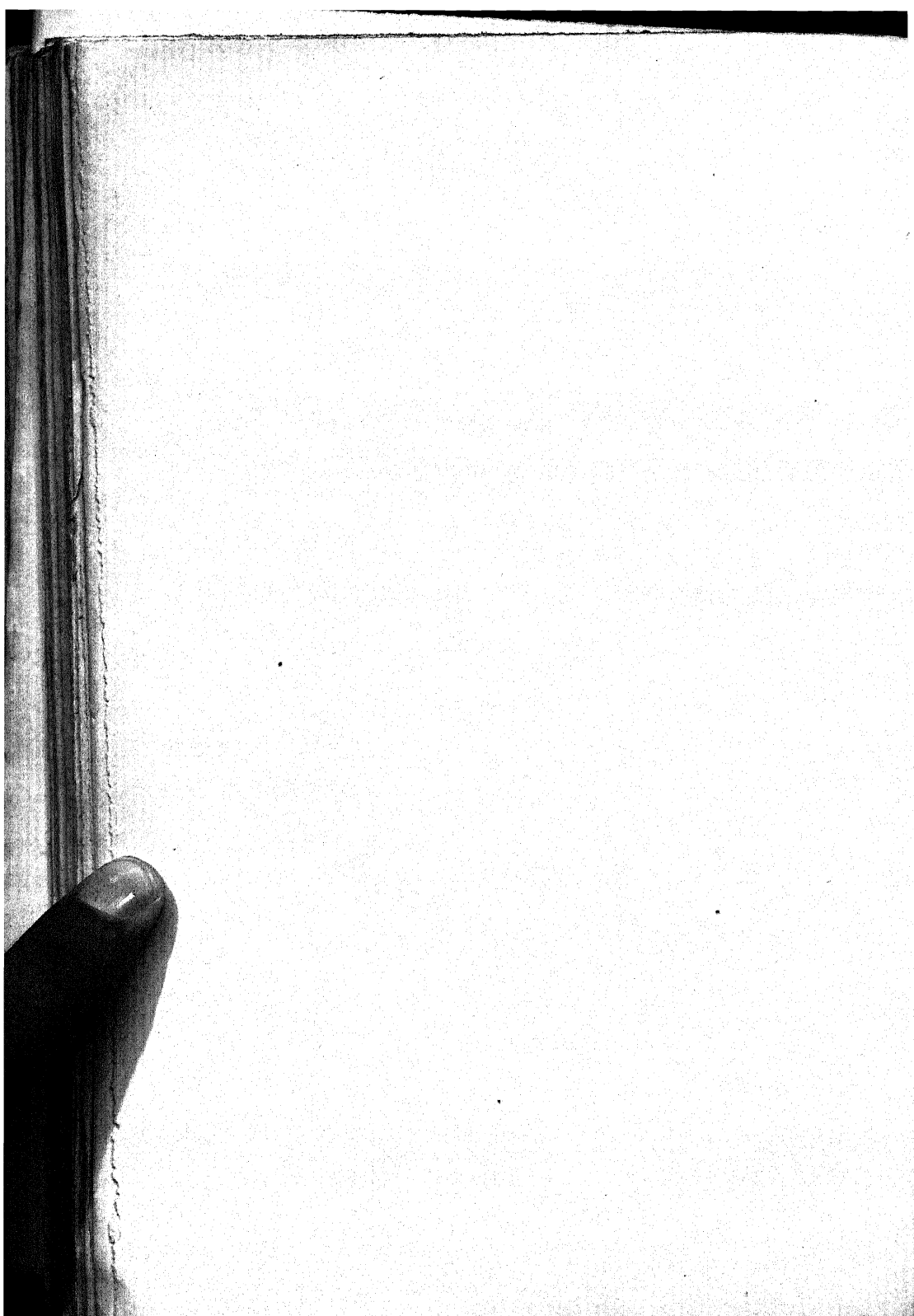
Already has the principle foreshadowed in these lines become an accomplished fact; and periodical field manœuvres, the only school in which the true art of war can be studied during long years of peace, form part of the military history of the year. At length we have not feared to adopt a to us novel system of instruction, though we have lost valuable time by our past apathy, and have only been induced to its adoption by the successes of a foreign power. We have till recently proudly refused to learn from the experience of others, and yet a good principle is none the less sound because it has been applied successfully by another nation. We might well take a lesson from foreigners themselves on this point. They do not think it beneath them to study, and if necessary accept, the good features of any system, come whence it may. In all other matters, in private or commercial life, we do not deem it derogatory to utilise inventions, discoveries, ideas that have been brought forward beyond the narrow circle of our own realm. Had we done so, England would assuredly be behind the age in more ways than one. But in our military service we are contented too frequently to rest on traditional knowledge, on ancient theories, and to disregard the lessons that might be learnt from the action of other nations, because this plan is too French, that too German, for Englishmen. A principle is sound or not on its own merits, regardless of the source whence it comes.

And yet the spirit of inquiry must not be allowed again to drop because our first camp of instruction

has not recorded any grave failure in our application of an existing system. We as a nation have been too prone to rest on our hard-won laurels, and commence each new campaign with but the knowledge and experience of the last.

In the science of war, as in all others, there is no period of inaction—no period of rest. To cope with foreign powers successfully, even on our own soil, pace must be kept with the times, and the moral of the old fable of the tortoise and the hare must no longer find a parallel in our apathetic custom of “resting and being thankful.” A victorious campaign, rather than teaching us we can sleep and rest, should but point out that the steady undeviating progress of other nations inevitably introduces new modifications into all details of the art of war, and makes each battle we may have to fight more difficult to win.

THE END.



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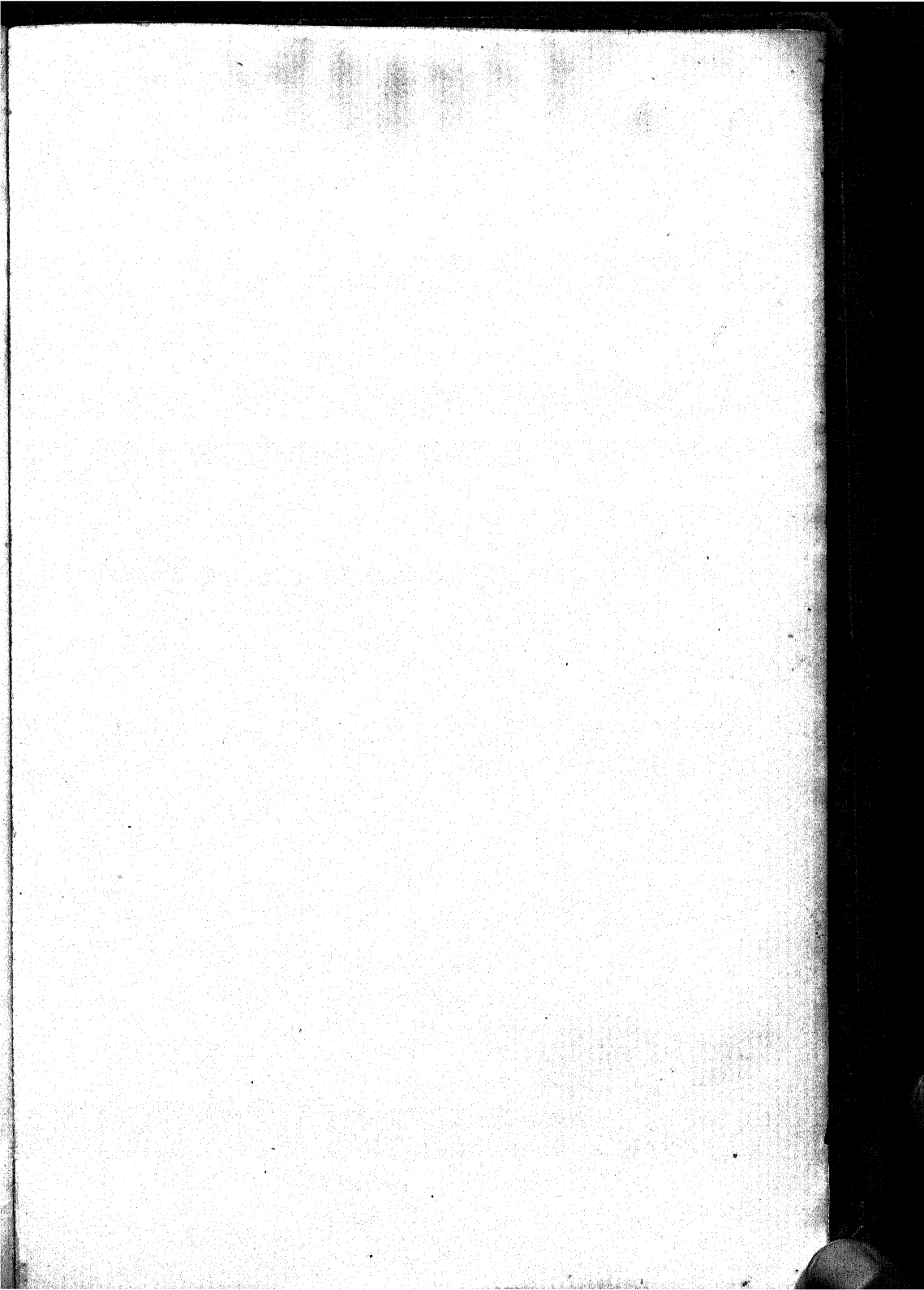
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